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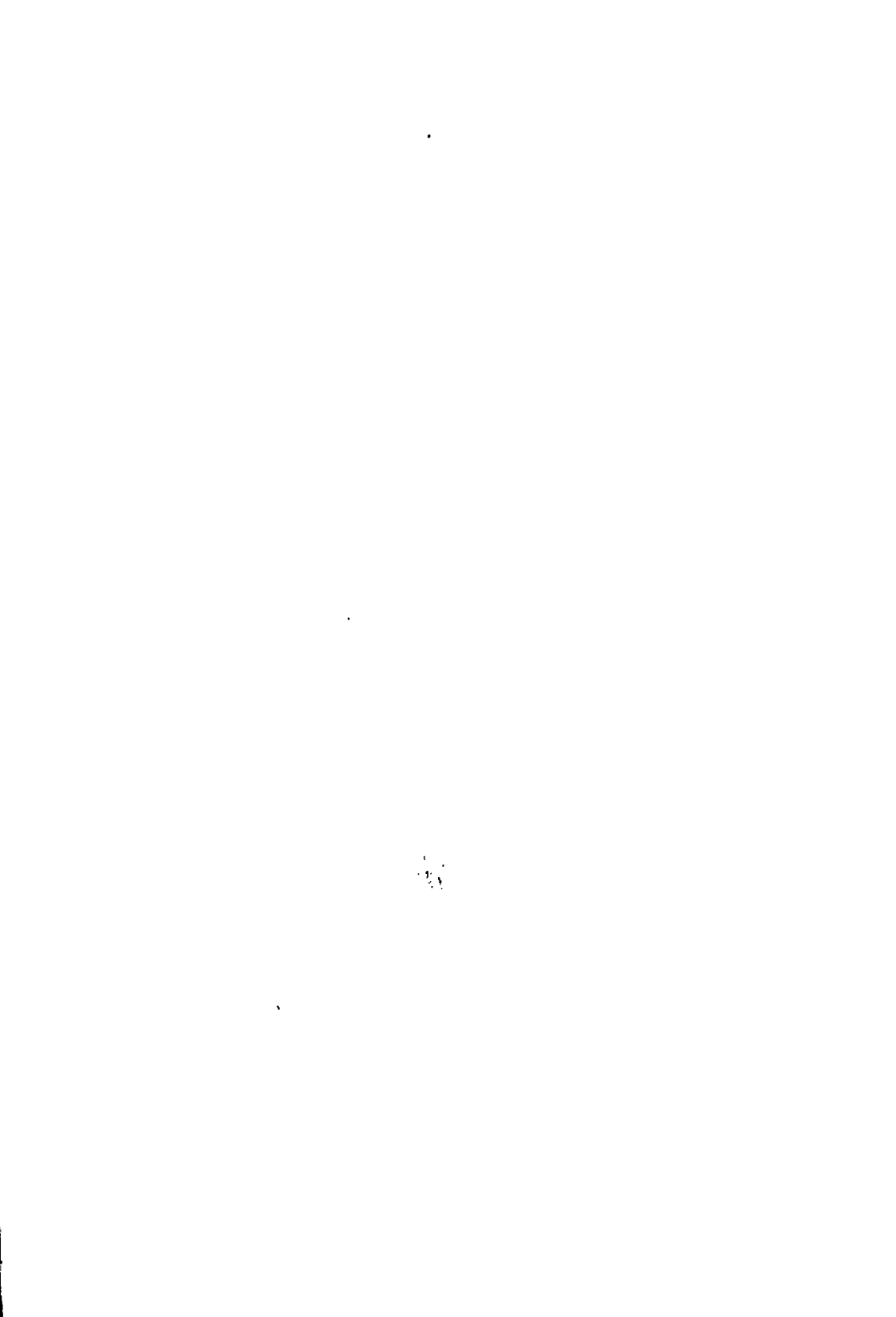
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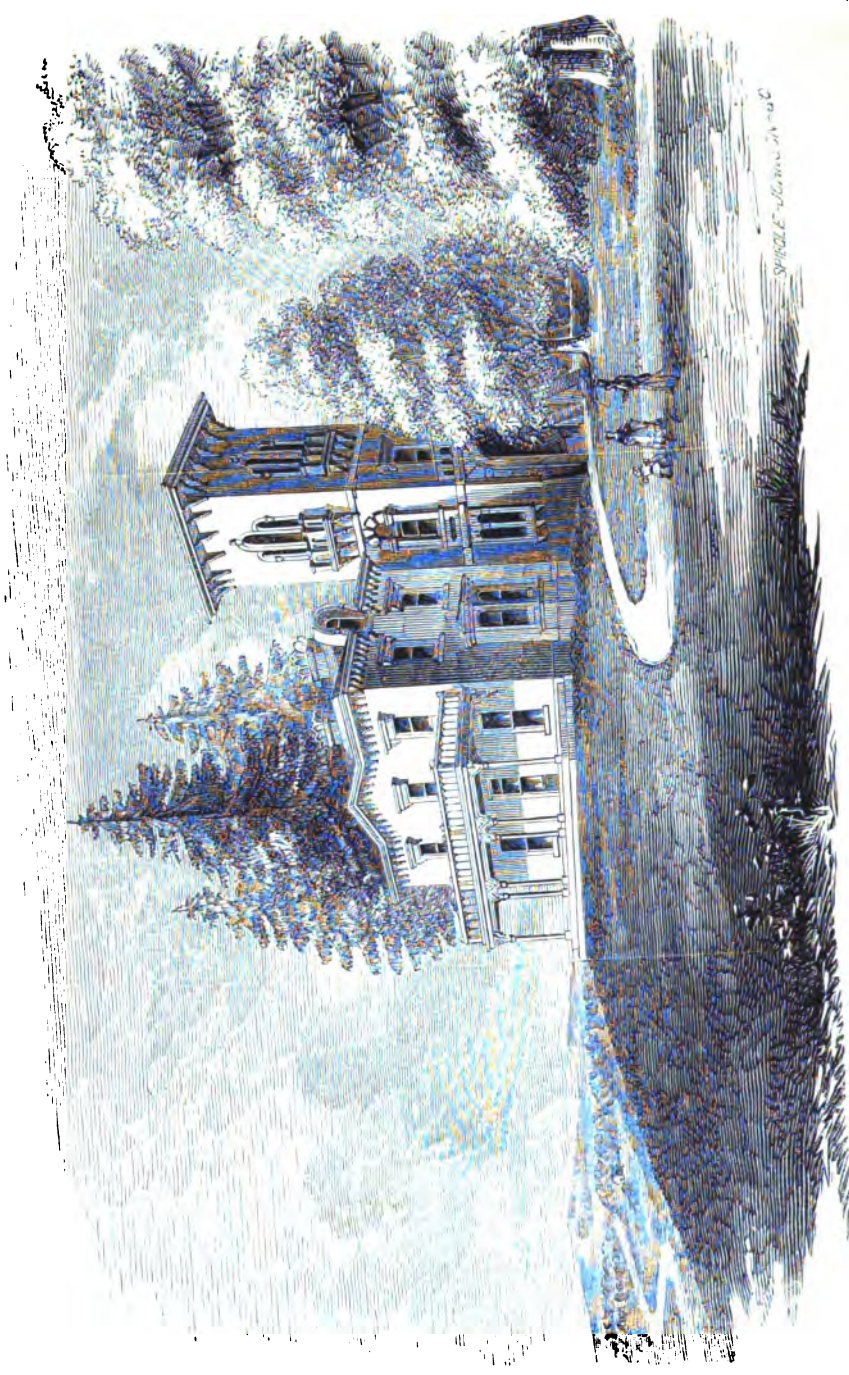
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THE HORTICULTURIST

AND
JOURNAL

OF

Rural Art and Rural Taste.

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A short Chapter on Gardeners and Experimental Gardens.



THE topics most in men's minds are often the ones that, for some cause or other, are most rarely discussed by the press. Gardeners, is one which is left to itself, because this useful class is very naturally sensitive to criticism, and does not bear animadversion better than other people; and yet it is of great interest to every person who has even small premises where fruit, flowers, and vegetables are to be grown. How are we to have a succession of gardeners?

The *Horticulturist* has had frequent communications in it, written by members of the profession, who were fully alive to the difficulties that exist with both the employers and the employed, and many home truths have they told to both parties. What we now say must be received in the spirit of kindness which dictates it. We of course feel, and have always felt, a deep interest in the subject; difficulties do exist, and will continue till some plan is hit upon for the education of gardeners of American growth; the more plainly we speak upon the subject, the better it will be for all parties, and the sooner we shall arrive at some profitable result.

At present, our best florists and gardeners are from abroad; we have among them not a few who are well educated, and superior to the average of the profession in Europe; but we hold it as an axiom not to be disputed, that a gardener educated in the climate, and surrounded by the habits in which he is to live, is, *ceteris paribus*, more likely to succeed, at first entering upon his duties, than one from a different soil. What we want is a "Gardener's College" in every State; or, if the name is too high sounding, call it an "Experimental Garden." Such institutions have succeeded abroad, but here, with proper men at the head of them, men who understand what is going on, and are capable of directing, success is beyond a doubt. Such institutions need not depend on State patronage, which would be the last kind of encouragement we would admit into the management, both because it would insure change of direction and political intrigue, and would imply a government of electioneering spendthrifts. We would have a few intelligent neighbors to unite in every section of the country, and purchase in joint stock a suitable piece of ground, near enough to their own property to be within their means of frequent call; employ the best gardener to be procured, whether native or foreign, and exhibit to their visitors what a garden may become. From it each stockholder could draw specimen plants and trees, true to name, by way of dividend; the extra produce, both of fruit, vegetables, trees, and plants, should

be sold at the most convenient depot, as well as at the garden; the proceeds would very soon pay all expenses, and leave a supply; the head gardener, and even the assistants who proved themselves worthy of confidence, should receive a percentage on the sales, on the same plan as was so long pursued in the eastern whale-ships; no one should participate in this percentage who did not remain a certain stipulated length of time.

Here should be a respectable school for apprentices—a place not yet provided in any part of the United States—for the education of gardeners; the consequence of which is that we have no class growing up among us acquainted with our climate and our wants; we depend upon foreign labor in this department, and we all know, with honorable exceptions not a few, what we get. As remarked by Mr. Chorlton, himself a good judge of a gardener's qualifications: "So long as the present system of obtaining gardening labor is in existence, we may not look forward with a progressive eye. *We want more home-made gardeners*, so as to infuse a portion of the home intelligence into the business. Let horticulture be advocated and acknowledged as a science more strenuously in the newspapers, in the different periodicals, and throughout society, so as to make it appear worth while for the intelligent youths of the country to take it up; let it be spoken of on the hearth-stone as something worthy of their acceptance; educate them so that they may apply their minds for a time to close study and observation of nature; and withal entice the cottagers to cultivate their plots by encouraging them at the Horticultural Societies, so that the family growing up may acquire a taste for these things, *for it is from such homes that native gardeners must come*. Add to this a better knowledge of gardening affairs on the part of employers, so that they may know how to appreciate the value of a good gardener, and he will be stimulated to fresh exertions. Likewise establish public and experimental gardens, that we may have something to look up to."

The education necessary for a gardener is not merely one of routine. "All operations in horticulture," says Professor Lindley, "depend for success upon a correct appreciation of the nature of the vital actions; for although there have been many good gardeners entirely unacquainted with the science of vegetable physiology, and although many points of practice have been arrived at altogether accidentally, yet it must be obvious that the power of regulating and modifying knowledge so obtained cannot possibly be possessed, unless the external influences by which plants are affected are clearly understood. Indeed, the enormous difference that exists between the present race of gardeners and their predecessors can only be ascribed to the general diffusion that has taken place of an acquaintance with some of the simpler facts in vegetable physiology." Gardeners can scarcely call themselves such unless they have mastered this science; let those who complain of the want of good assistance ask themselves how much have they done to assist in teaching it. How many of us provide books on the subject for our gardeners?

As to the compensation of gardeners it would be difficult to fix a rule; but this

we can say, that when the art flourishes to the extent it is destined to do, prices will follow demand. As a general rule, we do not think *the best* gardeners are sufficiently paid. To have become a thorough master of the business implies a long study and much time; in other professions we hear this brought forward as an argument for high charges. The consulting physician sends in a bill of ten dollars for a single visit; the attorney charges hundreds of dollars for a fee; but the gardener, at a price which tailors would consider very indifferent compensation, is supposed to be well enough paid, though he places on the table of his employer, daily, fruits which are beyond price, and flowers which money can scarcely purchase.

One mode of compensating gardeners, beyond present prices, we have seen successfully practised both abroad and in America. Some persons may object to it, but on examination it will be found both practicable and a useful stimulus, no less than a public benefit. Colonel Wyse, who expended fifty thousand dollars in opening the Egyptian Pyramids, and whose residence is near Windsor Castle, when age had begun to confine him to home, entered warmly into the spirit of gardening, and with his ample fortune provided every known means for propagating fruit on an extensive scale for his own amusement. He very soon found himself overstocked with the most delicious fruit; but instead of diminishing his walls and houses, he quadrupled them, gave his gardeners an interest in the proceeds, and they very soon became great contributors to Covent Garden market. In a short time the experiment not only supplied his own table bountifully, as well as the tables of his friends, but the returns paid all the cost of a large corps of employées. He had the full enjoyment of a capital garden, with plenty to consume and give away, without cost. A few instances of similar success on this plan have come to our knowledge here; and mostly, we believe, the gardener receives the premiums of Horticultural Societies for plants and fruits raised at the employer's expense.

Still, we think the best gardeners are sometimes under-paid, and that *discrimination in prices* is too frequently disregarded. The result is that the best informed, most practical and useful, often desert their employers as soon as an opportunity presents of going into business on their own account. Owners of gardens in first rate condition find it difficult to supply the deficiency, get discouraged, and blame the profession; whereas if they had made the home of the gardener comfortable, given him enough to educate his children, and otherwise made a friend of him, he might have enjoyed his operations, performed on a plan he had become accustomed to, for the whole of his life, instead of encountering new terrors in the shape of such new torments—who, as Mr. Barry says, “often palm themselves off as gardeners, when they were nothing more than mere garden laborers in their own country.”

With regard to experimental gardens, those who have seen the one at Edinburgh need not be informed that it is a model of beauty, has been very profitable to the few stockholders, and has turned out some of the best gardeners in Europe.

Mr. Chorlton, on this subject too, bears emphatic testimony: "I have had some experience in the working of such societies in England, and can assert with confidence that they have done more to elevate gardening in that country than anything else. They have been the means, during the last twenty years, of making English horticulture the model for the world, of stimulating skill, and raising a higher standard of perfection." Mr. Elliott, the esteemed fruit-grower of Ohio, in the first number of the *Ohio Farmer*, bore similar testimony to the advantages of experimental gardens, but hitherto an apathy has prevailed fatal to any prospect of education among us; until we wake up to its importance, we must continue to bear our present burdens. But that the time is near at hand to move in the matter, we fully believe. Who will set the ball in motion? It is time the gardener was elevated to a position which the importance of his profession entitles him to hold. He is very often a well-educated companion, whose conversation and general intelligence would compare with his superior in mere wealth; not unfrequently he has travelled in pursuit of knowledge, and can bring an amount of experience to his business that is truly valuable. Such men are the prizes; let us not hereafter have it to say they are the exceptions—which surely they will become more and more, when, from any cause, emigration ceases—unless we provide the means of education to their children or our own.

Experimental gardens would be the head-quarters from which gardeners, both domestic and foreign, would get certificates or diplomas of their qualifications; they would, in short, be a boon to both employers and employed.

MCDOWELL'S RHODODENDRON.*

MR. REDMOND, the editor of the *Southern Cultivator*, has favored us with a beautiful drawing of a new, or at least undescribed Rhododendron, which we have great pleasure in presenting to our readers, with the following narrative of its discovery. Plants are promised us in the Spring, when we may be able to give a further account of it:—

EDITORS SOUTHERN CULTIVATOR: I send you a drawing of a flowering ever-green shrub, recently discovered on some of the mountains in Macon County, North Carolina, which, in point of beauty and magnificence, is second only to the *Magnolia Grandiflora*.

It is a nameless and undescribed variety of Rhododendron; there is, however, a traditionary account of its discovery some sixty years since, by a botanist by the name of FRASER, then exploring this country, under the patronage of the then Emperor Paul, of Russia. Fraser died suddenly on his return to St.

* See Frontispiece.

Petersburg, which, probably, is the cause of an account of it never having been published.

The annual burning of the forests in which it grows usually destroys it, so that it is extremely difficult to find a specimen of it. Some four or five years since, however, S. McDOWELL, Esq., of Franklin, Macon County, North Carolina, rediscovered this truly gorgeous plant, and for a year or two past has been engaged in propagating them, by removing the plants to his garden near that place. The shrub grows to the height of four or five feet, and is of easy cultivation; the foliage is larger and more rich than that of the Pontic varieties with which we have compared it; the panicles of flowers, too, are larger and more brilliant in color. Mr. McDowell sent us a box of the flowers in June, which we compared with those of Ponticum, which we fortunately then had in bloom, and which were inferior to it in all respects. The foliage also differs from it, being larger and heavier, having golden yellow footstalks and midrib, the peduncles to the flowers being likewise of the same color, whilst those of Ponticum are green; the under-surface of the leaves are nearly white and of a velvety texture, differing from *R. Maximum* and *R. Catawbiense* in not becoming ferruginous. No native American flower can exceed it in habit and beauty, and it must become a popular acquisition to the shrubbery and flower garden, being sufficiently hardy to endure any climate. Its color is a bright crimson approaching towards scarlet; the panicles are composed of a large number of flowers, from twenty to thirty, forming a conical mass nearly as large as a man's head; the contrast between these and its dark-green foliage is very rich and magnificent, and can only be conceived of by being seen.

The labors of Mr. McDowell have been both arduous and unremitting in transferring these plants to his grounds, as they have only been found on the tops of the highest and most inaccessible mountains, the only approach being on foot; he has employed men to bring them some six or seven miles on their shoulders, it being the only mode of conveyance practicable. Specimens of flowers and leaves have been sent to many of our most celebrated botanists and cultivators of Rhododendrons, and, as yet, all have failed to identify it with any previously known, and it will probably prove to be a new species.

We hope the industry and labors of Mr. McDowell may meet with a suitable reward in the sale of his noble plant; and those who procure them, we will guarantee, will never regret having done so.

J. VAN BUREN.

CLARKSVILLE, GA., August, 1855.

N. B.—The drawing I send you is a fac simile of a medium sized panicle of flowers sent me by Mr. McDowell.—J. V. B.

CULTIVATION OF THE RASPBERRY.

BY DANIEL HUGHES, HAVERSTRAW, N. Y.

FROM a given amount of money, the Raspberry will, I think, return a larger amount of enjoyment and profit than any other fruit—the grape even not excepted. The raspberry season is looked forward to with the same earnest longing; both are delightful portions of the circle of the year; the refreshment which characterizes the grape is possessed in even a higher degree by some of the fine varieties of the raspberry, such as Knevett's Giant, Rivers' Monthly, and pre-eminently by Brincklé's Orange, which is undoubtedly the finest in cultivation.

Raspberries may be grown in almost every variety of fertile soil with nearly equal productiveness, but with greatly varied luxuriance, two constant requisites being always maintained—depth and richness of soil. The ground should be worked at least to the depth of eighteen inches, unless it is very retentive of moisture, or the subsoil very obstinate, in which cases water will accumulate at the roots, and cannot be disposed of at much less depth; so that the fibres may avoid the danger of being winter-killed, or death from being laden with water in summer. I have grown them with great success on reclaimed old swamp, and on very open sandy loam, as well as on almost every intermediate grade of soil. Those on reclaimed swamp grew, for the most part, rampantly as regards the plants, but did not produce the best berries, nor the best plants from which to form a new field; the best fruit was uniformly from light upland.

In manuring for the raspberry, a deep alluvial soil, rich in vegetable mould, will require a light dressing of well-rotted stable manure, with a top dressing of ashes immediately after planting, employing from ten to thirty bushels to the acre. For a light sand or loam, a liberal dressing of compost will be necessary; to four loads of vegetable muck, add one load of rich barnyard manure, and from four to eight bushels of unleached ashes; and if lime is cheap, it may be advantageously used to twice the amount of the ashes, together with salt lye, which is the best addition to the compost that can be used for this fruit. Mulch the roots well, to keep the ground free from weeds; but the grand point to be insisted on is depth of culture, which leaves a constant supply of moisture, obviates the danger of too much wet, and gives scope for the ever active roots to hold their revels, which they manifest in a profusion of fruit.

For the growing of good fruit it is not *necessary* that the canes should be supported, though it is advantageous, and also convenient in picking. The most obvious method is to support the canes of each hill with a stake; but a more effective and convenient way would be to stretch a wire along the rows, supported by a firmly braced post at each end, and at intervals of about thirty feet drive stakes into the ground to support the wire at an elevation of about three feet, or four feet for the most vigorous growers; spun yarn will answer.

The rows should be four feet apart. North of the latitude of Philadelphia (and there also) lay down and cover the canes in winter. When the bearing season is at an end, the old canes should be cut out, and the shoots that have sprung up for next year's bearing should be thinned to the proper number, varying according to the strength from three to five; remembering that the crop is made or marred the year previous to its production. In choosing plants, the root, and ripeness and solidity of wood, not length of canes, should govern the choice; large canes, with small roots, are undesirable.

My first choice as a market fruit, is the Hudson River Antwerp, for its size, exceeding productiveness, and its firmness, which enables it to bear transportation. The current year one thousand dollars net were realized here from one acre of this variety. For field culture it deserves its celebrity, but for the garden it is much excelled by the seedlings of Dr. Brincklé. Fastolf is nearly equal in productiveness, but a much more vigorous grower, and somewhat more hardy. Its rich berries almost burst with their fine juice, and do not bear carriage well.

Franconia is a vigorous grower, and rather more hardy than either of the above, with large, dark-colored fruit, bearing carriage nearly as well as the Antwerp; it is a late bearer, of high flavor, and especially excellent for cooking.

Knevett's Giant is truly gigantic, excellent for the dessert, and for preserving. Rivers' new large-fruited Monthly had been a disappointment till I determined to thin out offsets, and let no more grow than were required for fruiting, and that had the desired effect; and it has proved the most productive that I have cultivated, more than twofold of the H. R. Antwerp.

The Yellow Antwerp is a very good variety, but its berries are so much softer than Hudson River, that it is not grown for market. As Elliot remarks in his *Fruit Grower's Guide*, "it will soon give place to Brincklé's Orange and Colonel Wilder, which are far better varieties."

May's Antwerp is an excellent productive variety, but less hardy than the above, and of much less vigorous growth. Ohio Ever-bearing, by those who like the black-cap variety, will be greatly prized, bearing as it does profuse clusters. Catawissa has much the habit of the last, but the fruit hitherto has not been comparable to it in flavor.

Colonel Wilder is a white berry, of brisk, rich flavor—productive, excellent, and hardy. Vice-President French is a vigorous and productive variety; berries large and juicy, with a high subacid taste; a late bearer. To Cushing, the description of Vice-President French will apply, except that it is exceedingly sweet; it bears until after many are dry from frost. Yesterday (Oct. 20) I picked a branch loaded with fruit; its leaves were green, while those around it were shrivelled up; very hardy. Brincklé's Orange is among raspberries what the Newtown Pippin is among apples. In conversation lately with Mr. Charles Downing, who is eminently conservative, he remarked: "This is by far the best raspberry in cultivation." It should have been called Opal instead of Orange, its translucence suggesting the brilliant play of light of that gem, and its beauty

is equalled by its excellence; it is very vigorous, hardy, and productive; continues long in bearing; most excellent in every respect for field and garden. The Walker, were it not for its exceeding adhesiveness to the germ, would be valuable. The *Mrs. Wilder* is so like the Colonel Wilder as scarcely to need a separate description. It is not so hardy, and not so productive. The double-bearing Antwerp scarcely bears at all! and what fruit there is, scarcely tolerable. Several native varieties have high-flavored fruit, but the berries are too small to be valuable. The true Antwerp is very hardy, and a most vigorous grower, and bears good crops of medium quality; it is still cultivated in Jersey for market. The Northumberland Fill-basket has a high English nursery reputation, but has not yet given any indication of merit in this country.

[The above is a capital article by a practical and observing man. We may remark that he omits two of the most valuable manures for this plant—*spent tan*, and chippings of leather; the raspberry luxuriates in this kind of food.]

Mr. Hughes cannot have the true *Mrs. Wilder*, the fruit of which was larger and finer than the Colonel Wilder; but unfortunately the original plant was destroyed before it was disseminated.

In regard to the Walker, the pertinacity with which the fruit adheres to the stem renders it more valuable for market purposes, but it should be gathered *with the stem on*, as is the custom in England, and then it can be transported to any distance. When fully ripe, there is no raspberry that will remain so long in perfection, on or off the plant, as the Walker.—ED.]

ORNAMENTAL TREES—THE LOMBARDY POPLAR.

BY LEWIS F. ALLEN, BLACKROCK, NEW YORK.

WERE I disposed to solemnize, after the fashion of Natty Bumppo, in the midst of the Catskills, while gazing alone from one of its topmost peaks far away down into the broad valley of the Hudson at the "wasty ways" of the white man, I might commence this, my homily, with the profound remark, that "man is a *capricious* animal!" Even so, as applied to the ornamental verdure wherewith he should surround his dwelling, or decorate his grounds. Forty odd years ago—I was a boy then—the pleasant village near which I was nurtured, in the charming valley of the Connecticut, had some of its pleasant homes and cleanest streets planted with the Lombardy poplar. They threw up their clean, straight stems, and trembling sugar-loaf tops far above the great elms which swung their branches in hoary majesty around them, and with the tall spire of the white meeting house, gave the town a cheerful, happy look, such as it has never worn since the "better taste" of the good people there have cut them all away and supplied their places with locust, alianthus, and maples. Nor am I disposed to find fault with the ephemeral,

cockneyfied character of the two first of these, while I yield to no one else in my real admiration of the other. But I never could divine the reason why the cheerful native of sunny Lombardy should be so remorselessly cut away at the bidding of a capricious will, when it really has so much of intrinsic beauty in itself, and appropriately applied, gives such picturesque variety to groups of the round-headed trees in its immediate vicinity. Yet it has been swept utterly out of existence in many localities, and scarce one of our professional landscape-gardeners, or writers, much more our tree-raisers, have the moral courage, or true taste to recommend its propagation, or to cultivate it in their grounds.

It is now the twelfth day of November. The soft haze of our Indian summer has been floating around us for a week. One after another the yellow, red, and russet leaves from the various trees in the lawn and adjacent forests, have fallen silently to the ground, and left their limbs bare as in mid-winter; while from the window at which I sit, looking out upon the clear, sweeping Niagara, and on to the opposite Canada shore, keeping guard over the cheerful, white-painted dwellings behind them, mixed in with the golden willow, stand hundreds of beautiful Lombardy poplars for miles along, still glorying in the soft yellow tints of their full leafy tops, and cheering up with life and beauty a most delightful landscape. How gracefully, too, they throw their long shadows into the clear water with the sunshine. Yet fashion—capricious, senseless, fussy fashion, calls them vulgar. Not so do I. Spite of fashion, with its caprice and nonsense, the Lombardy poplar is still a graceful, beautiful tree. And I'll tell you why. Not in stiff, formal rows, like a line of grenadiers with shouldered arms, guarding an outpost; or in naked, stake-like regularity lining an avenue; but shooting up their taper heads here and there among other trees, like the tall spires of churches among wide blocks of houses, giving variety, point, and character to a finished picture.

The Lombardy poplar, like the cottonwood, is a *universal* tree. It grows in all our climates alike, from the lagoons of the Gulf of Mexico to the northern extremities of the upper lakes. It grows from the slip. Cut off a branch large as your arm, and plant it two feet in any kind of a soil, no matter how sterile, short of a dead swamp, and it will grow with great rapidity and vigor. In ten years, with no care or pruning, it becomes a stately tree forty feet high. What tree will do the like? It is a clean tree. Its roots throw up no suckers. Worms and vermin seldom molest it—less even than many of those esteemed *most* ornamental. It is a conspicuous landmark, in elevated spots, indicating, miles away, the spot you wish to reach. You are told that when old, its limbs decay, and it becomes ragged, and repulsive to the sight. Then cut the top down to half a dozen prongs, a dozen feet from the ground. No other tree but a willow will *stand* that. But the poplar heeds it not. With a vitality unknown to the greatest favorites, it strikes out anew its numerous upright shoots, and in two years its taper limbs are high in the air, and before you are aware of it, it towers among its fellows as if the saw or the axe had never touched a branch. It comports fitly

with the Italian architecture of our houses—the best of all styles for country buildings. Economical, when dry, it is a good summer fuel. If you doubt it, ask the bakers, or the charcoal men. No wood does better. But I speak of this incidentally, valuing it only as an ornament. Yet with all these good qualities, one may ride a hundred miles through a country boasting fine grounds, and elaborate furnishings, without seeing a single specimen.

Let our tastes become better cultivated, and overcome the narrow prejudice that has banished this once graceful and cherished tree from our grounds; and throw it in, here and there, and all about in miscellaneous companionship with others, and then acknowledge that it has grace and beauty, long life, and enduring foliage. It will throw out its rich, brown clusters of flower buds, when the ground is still filled with frost, and its pea-green leaves open their downy coverts in the earliest spring; it will whisper its grateful rustling music throughout the heats of summer, and cheer you with its soft, yellow garniture till the very frosts of winter cut them down. Ho! then; let us give renewed life to the long-neglected Lombardy poplar.

[With regard to this tree, we can just remember that there was an outcry against it, because it was believed to be infested with the “poplar worm,” supposed to be poisonous, we believe unjustly so. Fashion has undoubtedly done the deed, and fashion, in due time, will restore it to its true uses, as it has done the hollyhock, tabooed till Wordsworth made it again a favorite. It is a rule in the composition of landscape, that all horizontal lines should be balanced and supported by perpendicular ones; hence the Lombardy poplar becomes of great importance in scenery when contrasted with round-headed trees. It is admitted by all writers on the material sublime, from Burke to Dugald Stewart, that gradually tapering objects of great height create the emotion of sublimity. These trees may be advantageously planted wherever there is a continuance of horizontal lines, but they should be so arranged as to form a part of those lines, and to seem to grow out of them, rather than to break or oppose them in too abrupt a manner. In the case of a stable or other agricultural building, where the principal mass extends in length, rather than in height, it would be wrong to plant Lombardy poplars, or other tall fastigate trees immediately before the building, but they will have a good effect when placed at the sides, or behind it.

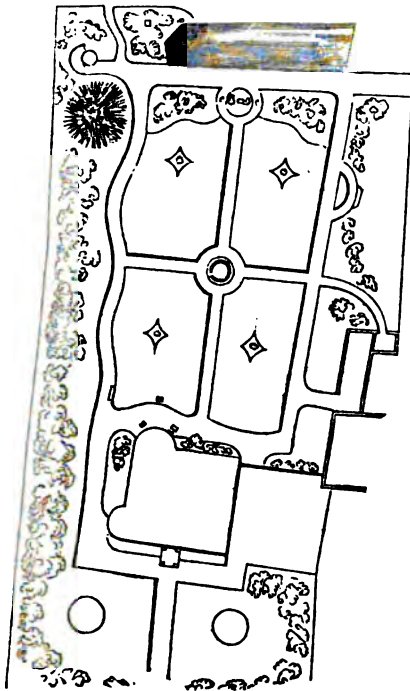
Such trees (fastigate) should appear in all plantations and belts that are made with a view to picturesque effect, but it is a most dangerous tree to be employed by a planter who has not considerable knowledge and good taste in the composition of landscape. It would make an excellent shelter on the prairies; for a screen from the winds it should be planted close, and the top cut off annually. Its rapidity of growth renders it suitable to half-screen a too staring open view where it is desired to look under the branches. Along the sides of lakes lengthened and pleasing reflections are produced, which, breaking the horizontal gleams of light, not only produce variety and richness, but, by increasing the length of the perpendicular lines formed by the poplars, confer a degree of sublimity on the picture.]

LANDSCAPE GARDENING.

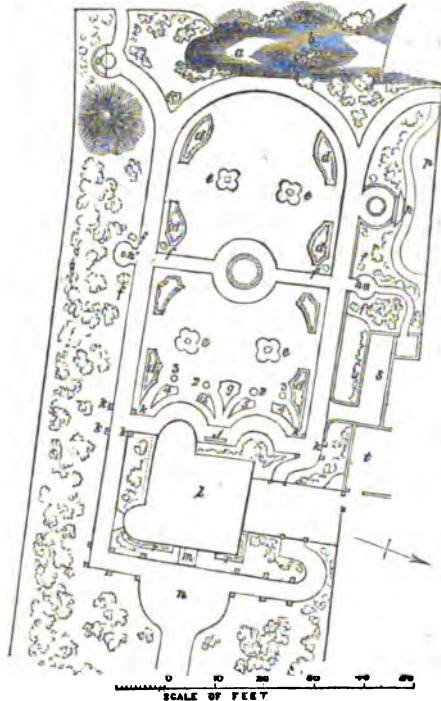
(FROM TURNER'S FLORIST, FRUITIST, AND GARDEN MISCELLANY, LONDON.)

IN the course of our professional journeyings immediately round about the metropolis, it has been a matter of surprise to us that the gardens of villas, large and small, exhibit in their arrangement less good taste than those of similar

ORIGINAL PLAN.



IMPROVED PLAN.



SCALE OF FEET

- a Pond.
 b Mass of Water Lily.
 c Large Chinese Arbor-vitæ.
 d Clump on turf for herbaceous plants and small flowering shrubs, and bordered by clipped evergreen hedges of Cotoneaster, &c.
 e Beds on turf, with Juniper in centre, flowering plants round.

- f Irish Yews.
 g Parterre on turf.
 1. Blue with white margin.
 2. Scarlet.
 3. Light pink.
 4. Brownish orange.
 5. Deep violet or purple.
 h Statues on pedestals.
 i Fountain.
 j Seat on centre line.

- k Vases on pedestals.
 l House.
 m Porch.
 n Coach ring.
 o p Alcoves.
 q Background for reserve, &c.
 r Border for creepers against house.
 s Greenhouse.
 t Laundry.

dimensions in provincial districts. Not that this has been the result of accident; for they almost invariably boast of a large amount of laying out, and not uncommonly is it their misfortune to have too much of it, in that an attempt is made to accommodate within a small space a certain quantity of all the different ingredients which go to the making up of a large garden; and these are obtruded upon each other in such admired discord that a visitor is inclined to compare the *tout ensemble* to a marine store-shop of odds and ends of gardens. We have frequently seen, within the space of half an acre or so, geometrical arrangements, sweeps of shrubbery, herbaceous borders, serpentine walks, arbors of different kinds and patterns, with stone vases and statues scattered about upon the ground or mounted upon picturesque old stumps; finally, no garden of the kind is considered complete without its fountain, rock-work and lake.

These various items are crowded together in so small a space, that from the windows of the house they are all under the eye at the same time; and care has generally been taken, for the sake of contrast, that the parts least in harmony with each other should be placed most closely in juxtaposition.

It is only confusion and disorder we would be understood as objecting to, not variety. The exhibition of skill in arranging a garden consists not only in the careful adaptation of the parts to their proper effects and purposes, but also in arranging their order with reference to each other, so that they shall combinedly form a harmonious whole; and these points duly kept in view, as much variety should be introduced as the space admits of without crowding.

As examples are more illustrative than a long dry discourse, we have selected a case in point from amongst those which have come under our consideration, and give engravings by which we can render more intelligibly an idea of what the garden was and of what it is now.

The house is pleasantly situated in one of our suburban villages, having its entrance towards the public road, and looking from the garden side over a flat agricultural scene, with which the house stands too much on a level. In front of the house a respectable piece of garden extends itself, flanked by a shrubbery on both sides, and bounded by a pond between and the extended meadows beyond. On the right is the greenhouse, at the end of one of the offices, inconsiderately placed so close to the garden as to make it an impossibility to conceal it by planting without materially encroaching upon the ground. Farther to the right stand coach-house, stables, and other offices, and beyond these a large kitchen garden.

The house itself is of plain red brick, unpretending in its architecture, and of a description which would require considerable outlay to give it a degree of ornamentation. The drawing-room, ending with a large bow on the left hand side of the group, being the only important room on that side of the house, it rendered the arrangement of the garden difficult; this, however, had been managed without the slightest reference to any windows of the house or in any other way with regard to it. The ground was simply cut longitudinally by a

walk somewhere about the middle, and across again about half way in the other direction, and, strangely enough, without any regard to right angles; and where these two lines intersected a fountain was introduced—other walks were made on each side of the garden, on one side a straight one, and on the other an example of the serpentine, and were joined at each end by other irregular ones; two arbors were added with as little regard to symmetry as possible, and an arrangement of clumps containing large shrubs crossed the end of the garden, completely shutting out the view of the meadow, and diminishing the prospect of the distant country. Near the centre of each compartment of turf was a peculiarly unplantable bed, with four long points, having a shrub in the centre, and intended to contain half-hardy plants, &c. The outer borders were all bounded with box-edgings, and contained mixtures of common flowers and shrubs. Bits of rock-work, shellwork, and old blocks and stumps were scattered about, and generally these specimens of the grotesque were surmounted with a vase or statuette.

The great faults in this case were the shutting out of the extended prospect, the cutting up of the garden into small patches, and the complete exposure of all the walks, as though they were the most important features of the garden. The first of these was rectified by clearing away the clumps near the pond, the second by destroying the centre walk, and the third by fringing the broad turf plot so obtained with clumps for flowering and other shrubs of moderate growth, which would rectify the obtrusiveness of the sidewalks, and be subservient to the larger shrubs beyond them.

In the new arrangement a centre was obtained upon a line from the fountain, at right angles with the building; and to give a balance to the basis of operations, a large projecting mass of close-clipped evergreen was introduced, to correspond with the shape of the drawing-room bow, which also served to aid in concealing the offices and yard on the right hand side of the house, and the yard itself was considerably contracted, that it might be effectually planted out on both sides from the garden.

Parallel with this centre line, and equidistant from it, the two sidewalks were laid down, and the use of box edging confined to the right hand side, where double lines are shown, and where it was most in keeping from its contiguity to the greenhouse; on the left hand side turf was used up to the shrubs, which were pegged down to meet it and conceal the margin. The two sidewalks were curved round so as to meet each other near the pond, which was made less artificial in outline, and rendered a more endurable object from wherever it could be seen. From these walks a branch was made to lead to the summer-house and meadow wicket on one side, and on the other side towards the kitchen garden. The branch walk leading to the back of the greenhouse was so curved as to render it less obvious, and in a circle of gravel, as shown, was placed, upon a suitable pedestal, one of the best of the statues—one we found stuck up in the fork of an old Mulberry tree; and on the opposite side of the garden a corresponding niche was made for its companion. The other architectural embellishments, in the

shape of vases, were furnished with proper pedestals, and appointed to suitable positions as near the mansion as possible.

We deemed that the house itself and the laundry could be most economically improved in appearance by covering them entirely with creepers, and especially with evergreen Roses, Pyracanthas, variegated and other ornamental Ivies, and the like, with a due admixture of Clematis, Honeysuckle, Wistaria, &c.

As the greenhouse and frame accommodation was limited, we were not justified in proposing a very extensive parterre, even if the extent of the ground warranted it; its natural flatness, however, suggested the propriety of a certain quantity of such arrangement, and it was obviously important that such feature should be as near the house as possible.

The apparent breadth of the garden, and indeed its general extent, being so much increased by these arrangements, the four beds *each* were introduced on one side, in line with centre of drawing-room window, and in a corresponding position upon the other. It is admissible that these should be filled either with dwarf flowering shrubs or with half-hardy plants, annuals, according to convenience, &c. A Swedish Juniper has a satisfactory effect in the centre of each.

So much more having been made of the ground in front, it became a reasonable matter to have nothing but shrubs and turf on that side of the house, and arrange that carriages might come quite up to the front door, instead of unloading at the wicket gate against the road in all weathers. Other matters are, we consider, so fully explained by a comparison of the two plans, and the references thereto, that it will be needless to lengthen the article with further description.

DOWNING'S FAMILIAR NOTES AND LETTERS.

No. I.

AN early acquaintance with the founder of the *Horticulturist* gave us an assurance of his merits. Before he had written a line for the public, several letters passed between us which revealed a mind in active pursuit of truth. There was, too, an earnestness and hope about all that he did, and yet that repose and self-possession which are so fascinating. Looking over some bundles of filed letters and social notes, for a different object, the other day, a number of letters from Downing unexpectedly made their appearance. Though a small portion of those received, we have thought them worthy of extracting from, as they exhibit him in full career, when life and hope were predominant—so soon, alas! to be exchanged for his early tomb. Very many of our readers and friends were his, and we are quite sure his memory is sufficiently cherished to make these few characteristic revivals acceptable here. However small the contribution from his pen,

it is sure to interest. We regret that a much larger collection of these letters has not yet been found.

HIGHLAND GARDEN, Aug. 24, 1846.

MY DEAR SIR: On my return I found your most kind favor, with the MSS. from Dr. Brincklé, and the colored plate of the raspberry, for which I am truly obliged. But I found also so many back letters to be answered immediately, and so many persons here to interrupt me every day, that I have only now been able to sit down to my own private matters.

First I must tell you about the Genesee. We were the guests of Mr. Wadsworth, and were truly charmed with that, the most beautiful inland country, and finest agricultural country that I ever beheld. Imagine a thousand acres lying before his door of the most beautiful meadow that you ever saw, sprinkled and grouped with three or four thousand of *specimen oaks* developed on every side, such trees as you have only seen one or two of in your life in America, and you have some notion of the beautiful natural park that I have feasted my eye upon. The trees are all oaks and elms. The "great oak" measures twenty-two feet round, and is eight hundred to one thousand years old! I was truly proud of this country, and especially of the late Mr. Wadsworth, whose fine perception led him to preserve these trees. They have always stood alone, and were surrounded by forest. The estate of the Wadsworth family in that country is forty thousand acres.

I was much disappointed in not receiving an account of the perpetual strawberry from Mr. B. Indeed, I have not yet decided to use the cut of the raspberry, but will write you about it again. Could he not give me a drawing of the orange raspberry? * * *

Yours with regard,

A. J. DOWNING.

To J. JAY SMITH, Esq., Philadelphia.

HIGHLAND GARDEN, Feb. 19, 1847.

MY DEAR FRIEND: Thanks for your kind favor of the 15th, with the nice note for my domestic notices—just one day too late, however—but will not spoil by keeping. I wish very much that you would make another note, at your leisure, respecting the fine rare trees about Philadelphia that you can call to mind without trouble—giving about their height, &c.—such as the Salisburia and Maclura, at the Woodlands, the Washington Chestnut and Box, at Judge Peters', the large Virgilias which you showed me, &c. &c.

I have sold out all my nursery interest, stock of trees, &c., and am rejoiced at the freedom from ten thousand details, and a very heavy business correspondence, of which I am relieved. I now shall devote my time to literary pursuits altogether, and my home grounds, as the nursery stock is gradually withdrawn, to experimental purposes—including a dash more of your favorite arboretum planting.

When I was at Wiley and Putnam's, about a week ago, I inquired for the copy of your last work, which you kindly promised to leave for me there, but it has not yet been received. I am quite curious to see it, especially after the notice I have seen of it in the *Literary World*.

The *Horticulturist* is going on steadily and well. We want to extend its circulation in your city, and will advertise there. * * *

Think of a New York farmer, James Wadsworth, Esq., of Genesee, subscribing one thousand bushels of corn, of his own growth, to the Irish Relief Fund! Won't this tell in Great Britain!

Mrs. Downing joins me in kind greetings to you and yours, and I am,

Sincerely yours,

A. J. DOWNING.

To J. JAY SMITH, Esq., Philadelphia.

HIGHLAND GARDEN, April 21, 1847.

MY DEAR FRIEND: Your "Domestic Notices" for my Journal were most acceptable, and are already in type. I shall be glad at all times of a continuation, and especially when your convenience serves for the notes on the fine specimens of ornamental trees about Philadelphia. Volume I. shall be at your service as soon as it is complete, *and all other future volumes of mine!**

When I was in Philadelphia a couple of years ago, you gave me a very nice sort of box, made of the *cover of a book* taken off by the binder, and told me at the same time that you had numbers of these covers that were of little use, having been taken off fancy books that you re-bind. If this is the case, you must let me persuade you to send some of these covers, if you have them to spare. I want to use them as a kind of portfolio covers for manuscripts, &c., which accumulate so much on my hands that I find it difficult to keep them in order. * * *

The Spring is wonderfully late, and we shall have an American leap from winter to summer.

Your ever kind invitation to Philadelphia, I assure you, was gratefully received. I, however, mean to be at home mostly this summer, as I wish to do something worth while with my pen, now; and I hope when you come to New York you will run up and see me here, where you know there is always a hearty welcome for you and yours.

Very cordially yours,

A. J. DOWNING.

To J. JAY SMITH, Esq., Philadelphia.

* The promise here expressed was never forgotten, and we consequently possess all his works published during his lifetime, in the form of presentation copies, with his autograph attached, clothed in terms of the warmest friendship.—Ed.

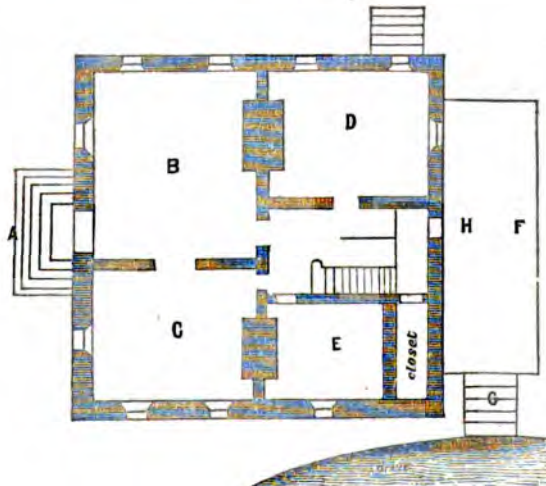
FRONTISPIECE.

THE mansion, of which the northeastern aspect is given in the frontispiece, is being built by me on Tilton Hill, near Wilmington, Del., for C. W. H., Esq.

This hill is isolated, of an unusually symmetrical conical shape, and the tall pines belonging to the old mansion, rise from its summit like a crown of nodding plumes. The view from this fine locality covers a wide range; the spires in Philadelphia, at the distance of 28 miles, can be seen in fineweather; while the horizon, in the opposite direction, at a nearly equal distance, is formed by a bold range of hills almost mountainous in character. Wilmington is spread out at your feet, with its tallest spires much below your stand-point; the undulating country around it is divided by three pretty serpentine streams besides the Delaware, while New



VIEW.



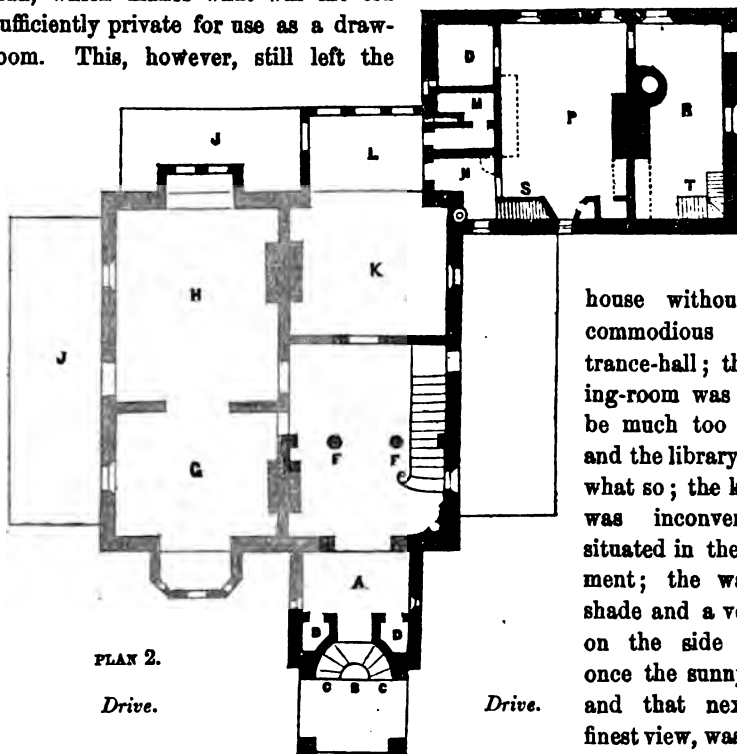
PLAN 1.

Drive.

Jersey and her pine forests bound the horizon in this direction. There are an unlimited number of building sites, commanding this noble view, and hitherto unaccountably neglected by Philadelphians.

The improvement in the present instance consists of large additions to, and the

entire remodelling of an old house. The property, when purchased by the present owner, consisted of a simple stone house, fronting the finest part of the view, 38 feet on all sides, without back-buildings, and having a basement kitchen. You entered by the high bank of steps at *A* (on view and plan); a hall *B* (on plan), 17 × 20 feet, opening to a parlor *C*, 14 × 17. Back of this, were dining-room *D*, 15 × 17, stairs 9 × 17, and a closet and small room *E*, 11 × 12. The present owner, feeling the want of a separate drawing-room, and of a covered outside entrance, constructed a back veranda *F* (on view and plan), and you now enter by the end-steps *G*, plan (seen at *F* on view), and so by the door under the stairs *H*, plan, which makes what was the old hall sufficiently private for use as a drawing-room. This, however, still left the

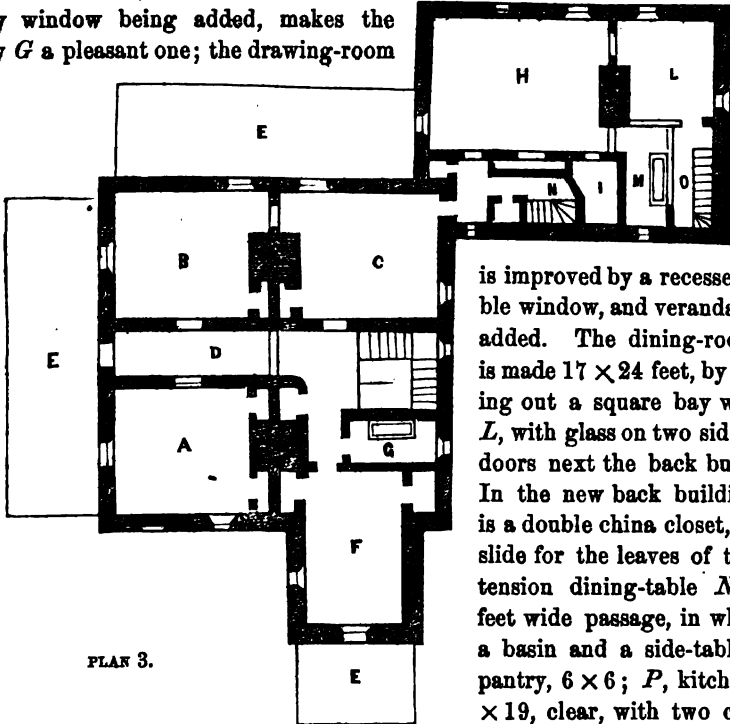


house without any commodious entrance-hall; the dining-room was felt to be much too small, and the library somewhat so; the kitchen was inconveniently situated in the basement; the want of shade and a veranda on the side *A*, at once the sunny side, and that next the finest view, was much felt; the attic was

crowded by the hip-roof; the second story was deficient in chamber-room, and without a bath-room; and the only place that could be used as a hired man's sleeping-room was the chamber *E*, on the principal floor. These inconveniences it was desirable to remedy, without interfering with the commodious back veranda which had already been added.

The new tower is situated on Plan 2 at *A*. This is to have a carriage-porch, with arches, through which the carriage-drive passes; the porch to be roofed, and to have a balcony on top. Visitors, in descending from a carriage, will step upon

a raised platform *B*, while pedestrians will use the steps *C C*. In the tower, we have a vestibule, with coat-closets *D D*. The chamber *E*, Plan 1st, being thrown into one, with the stairway, and the first flight of stairs turned round, gives a fine entrance hall, with columns at *F F*. A bay window being added, makes the library *G* a pleasant one; the drawing-room



PLAN 3.

is improved by a recessed double window, and verandas, *J J*, added. The dining-room, *K*, is made 17×24 feet, by throwing out a square bay window *L*, with glass on two sides, and doors next the back building. In the new back building *M*, is a double china closet, with a slide for the leaves of the extension dining-table *N*, a 4 feet wide passage, in which is a basin and a side-table; *O*, pantry, 6×6 ; *P*, kitchen, 16×19 , clear, with two closets, dressers, and sink; *R*, back-

kitchen, with wash-boiler, and floor-sink; *S*, back-stairs; *T*, man's stairs.

In the second story, Plan 3, *A*, *B*, and *C*, are old chambers, left undisturbed; *D*, a pleasant hall, opening on balcony; *E E E*, balconies; *F*, tower chamber, 12×16 ; *G*, bath-room; *H*, nursery; *I*, closet, 6×5 feet; *L*, bedroom; *M*, nursery bath-room; *N*, back-stairs (not continued); *O*, man's stairs (continued). The attics contain, in the back building, a man's room, and a drying-room, with a cistern; in the main, the old attics, much enlarged by the partial raising of the roof; in the tower is a cistern for spring water, to be raised by a power pump, over which is the observatory, with balconies on the sides, and an iron rail on the top.

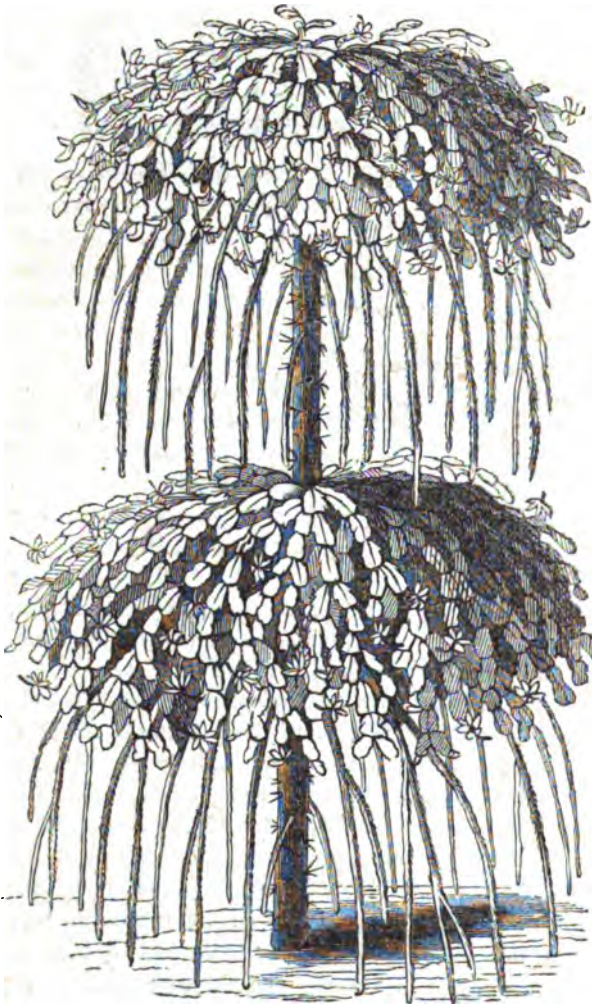
The old walls being of stone, of a good color, the new walls will be built to match; the cornices, window-dressings, and veranda will be executed in oak, without paint, and oiled. The style is the pure Italian rural. The cost of a similar building, entirely new, would vary from \$6,000 to \$8,000, according to the degree of finish.

R. MORRIS SMITH, *Architect*,

74 SOUTH FOURTH STREET, PHILADELPHIA.

GRAFTING THE CACTUS TRIBE.

THE method employed in grafting Cacti is thus described, in the *Gardeners' Chronicle*, by Mr. John Green, one of the most skilful growers of 'ornamental



plants: "I grow four stocks, *Pereskia aculeata*, *Cereus hexagonus*, and *Cereus speciosissimus*; I prefer the latter, on account of its hardy, lasting, and robust habit. I grow the stocks freely till they attain the height that I want them. Some I grow with five or six stems, from one to five feet high; others I grow with one stem, from one to four feet; the short stems I ingraft at the top with the *Epiphyllum speciosum* and *Ackermanni*, the tall single stems with *E. truncatum*, and some from the surface of the pot to the top, all of which is of course according to individual fancy; *E. truncatum* should always be engrafted high, without which, from its drooping habit, the greater part of the beauty of the bloom is lost. The grafts that I find to

succeed the best, are young growing shoots, about one and a half or two inches long. I pare off the outer skin or bark for about half an inch at the base of the graft, and cut what is intended to be inserted into the stock in the shape of a

wedge; I then make an incision in the angles or top of the stock, with a pointed stick made the same shape as the scion. When the grafts are first put in, to prevent their slipping out, I pass through each a small wooden peg or the spine of a thorn; I then cover each with a small piece of moss, and place them in a shady damp house, and syringe them over the tops occasionally in the evening; they will all adhere to the stocks in ten days or a fortnight, and make good plants by winter. By ingrafting the finest kinds of Cacti on the stocks that I recommend above, noble specimens can be grown in a few years from one to ten feet high if required; and the size and color of the blooms are much superior to what they ever produce when grown on their own roots. *E. truncatum*, by the above treatment, becomes quite a hardy greenhouse plant, and will bloom three months later than it does when grown in the stove on its own roots in the usual way."

Mr. Henry Ford, another successful grower, gives the following detailed account of his practice: "Last year, having several plants of *Pereskia aculeata*, from eight to ten feet high, which had previously been grafted at the top with *Cereus flagelliformis*, I inserted at various heights upon the latter grafts of different kinds of *Epiphyllum*, such as *Ackermanni* and *truncatum*, with *Cereus speciosus* and *C. triumphans*. The beauty, in June last, of a plant of this kind, which had been grafted in the previous autumn, I cannot describe. In grafting them, I make, with the point of the knife, an incision upwards, into which I insert small grafts, pared a little on both sides, of the kinds required. A small piece of matting is bound round the wounded stem, to keep the grafts tight until they have taken hold, which generally is the case in three weeks' time; the bast is then untied. Where room is no object, I think it preferable to graft *E. truncatum* upon specimens by itself, as it flowers in the autumn, whereas the other kinds bloom in the spring and summer. The pendulous habit of *Cereus flagelliformis* allows of its being trained in any form, according to the fancy of the owner. I have grafted Cacti at all seasons of the year, but I find that the best time is from the end of September until November; probably owing to the plants being in a more dormant state. I apply no fire to the house during this period, unless to dry up damp or exclude frost. One specimen of *Pereskia aculeata*, nine feet high, which was grafted two years ago with *E. truncatum*, the grafts being inserted three inches apart, along the whole height of the stem, and alternately on each side, has now the appearance of a pillar, and in about six weeks' time will be covered with many hundred flowers. It is advisable, in grafting these plants, to insert the scion upside down, especially if worked upon the main stem; in which case I remove a small piece of the bark from the stock, and fit a thin piece of the desired kind upon it. If this is bound up so as to prevent air from entering between the parts, it will take quite as well as if grafted in the usual way. Where this operation is performed upon spurs, the latter should be trained downwards previously to being grafted, otherwise the grafts, especially those with fleshy leaves, are apt to break off when they attain to any size. I have also grafted *E. truncatum* upon a stock of *Cactus Braziliensis*, which makes an excellent standard, as from its

robust habit it does not require any support. *E. truncatum* succeeds better if suspended, with a ball of earth about its roots, in a wire basket filled with moss, than when grown in a pot."

The brilliant effect produced by plants treated in this manner may be judged of from the accompanying sketch of a specimen growing in the garden of Mrs. Huskisson, of Eartham, where it had been made by Mr. Webster, her gardener.

STUDY OF NATURE.

BY AMICUS.

THAT there is a vast amount of thought bestowed upon horticultural and kindred pursuits, the pages of the various periodicals devoted to these subjects can fully testify. The study of nature, in all her various phases and phenomena, whether it is pursued in the animal, vegetable, or mineral kingdom, is a source of never ending delight; it enlightens our intellect, expands our ideas, and elevates our sentiments. Dispelling that almost impenetrable mist of self-sufficiency that hangs before our eyes, it teaches us to look from "nature up to nature's God;" enables us to appreciate the bountiful goodness, and form true conceptions of an All-wise Creator. The intelligent mind, and sensitive heart, cannot look upon these glorious scenes and interesting objects without feelings of the deepest emotion. Mark the delight of the astronomer, as with piercing eye he surveys the starry firmament, giving "a local habitation and a name" to unvisited worlds. Truly he "sees God in clouds, and hears him in the wind." See the assiduity of the geologist as he dives into the earth with keen-eyed research, bringing to light the most costly and useful productions of our globe. Look at the botanist, with untiring step rambling over the wide-extended plain, plunging into the entangled thicket, and scrambling up the rugged mountain, in search of his favorite flowers. With what unwearied anxiety the chemist watches the various processes of combinations, precipitations, and transformations which he derives from careful analysis. Observe the rapturous delight of the florist as he looks upon the gradual development of the opening bud; with beaming eye he points out "each varied tint," each nice distinction, "each part of that grand whole" whose favors smile around in luxuriance and fragrance, helped and improved by his own attentive care. "Is there a man with soul so dead" as to remain cold and unmoved at the sight of such glorious scenes as these? Yes, there are many such, with nothing but "speculation in their eye." It is a melancholy fact that the beauties and sublimities of nature may be exhibited in their most brilliant forms in vain to many of the human race. They are despised as trifling, puny, and unprofitable by those that are absorbed in the acquisition of wealth. They are unnoticed by

those who are either degraded by bad passions, or intoxicated with self-indulgence; consequently they have no relish for anything not connected with their own sordid ideas. But he whose mind is alive to the beauty of the works of God,

“ Can look abroad into the varied field
Of nature, and though poor, perhaps, compared
With those whose mansions glitter in his sight,
Calls the delightful scenery all his own.
His are the mountains, and the valleys his,
And the resplendent rivers, his to enjoy
With a propriety that none can feel
But who, with filial confidence inspired
Can lift to heaven an unpretentious eye,
And smiling, say—‘My Father made them all!’”

STEPHANOTIS FLORIBUNDA.

THERE is no stove plant more easily propagated. Choose cuttings that are short, trim off the lower leaves, and insert the cuttings in sand; place them under a hand-light, on a heated surface; they will quickly root. Pot them off as soon as roots are formed; replace under the hand-light for a week, shading from sun. In a fortnight they may be fully exposed. They prefer a rich open compost with pieces of charcoal intermixed. This plant will endure a temperature of 45°; in winter it should never exceed 55°, unless the sun shines, when it may be allowed to rise to 60°, and as the days increase in length the heat may be allowed to rise to 65°, when the plant begins to put forth short, stubby shoots, and fine, broad, healthy leaves; in a month after growth has commenced the flower-buds begin to show themselves; the heat is then increased to 70° by day with sun.—*Cottage Gardener.*

SEEDLING OF THE STANWICK NECTARINE.

At the late meeting of the British Pomological Society, Mr. Rivers reported on a seedling of the Stanwick Nectarine, as an improvement on the original fruit. It is very large, one specimen being eight inches in circumference, and of the shape of a truncated cone; the flesh separates freely from the stone, is exceedingly tender and melting, being somewhat of a buttery texture, like the most delicate of the Beurré Pears; the juice very abundant, and so full of sugar as to be quite a syrup; the flavor, full and rich; the kernel, like that of its parent, is quite sweet, like a Filbert. This fruit was from a plant grown in a pot, and the stone in every instance was cracked.

RAILROADS IN A SOCIAL POINT OF VIEW.

BY HORTICOLA.

MR. EDITOR—*Dear Sir:* As you have incidentally touched, in the last volume, upon a most important topic—the railroad as a transporter—permit a horticultural correspondent to say a few words respecting its influence in a social point of view.

A good domestic joke used to be in vogue in my neighborhood. A home-body in Newport, R. I., once made a trip as far as Salem, Mass., and ever after descanted on the benefits of travel as a means of enlarging the mind! He did not venture as far as we do in these days, but felt an influence ever after. Everybody now expands, if not their minds, at least their travel, some cause or other moving thereto, till the number of people in motion every day in this Union would make a very respectable army to subdue the Russians at Sebastopol.

What motives call so many people from home I shall not endeavor to inquire; nor shall I condemn any, for I confess I travel hundreds of miles myself for no other object than to see a good garden, nursery, or state or county fair. A few observations, which, if you publish, I shall consider you indorse, may safely be intrusted to your discretion.

Attention is so much directed to the profits of railroads, that it is to be feared the Americans are losing sight of some of the most important points in their conduct. During the month of October I travelled over nearly three thousand miles of railroad, principally in the West. I came to the conclusion that, *for a beginning*, the system was wonderful; but I also am confident that, if a few leading and simple errors in their management were corrected, the public, no less than the stockholders, would benefit greatly, for with the present want of accommodations, I cannot but believe pleasure travellers are comparatively few; if the system were more perfect, this class would so add to the throng of those who travel for business objects, as greatly to enlarge the sources of profit.* Let us see how it is at present.

* It must be confessed that the experiment of railroads as a stock investment has proved a failure. England has lost five hundred millions of dollars in this species of property, and the last semi-annual exhibit reveals a less satisfactory state of things than any before. New England has lost over a hundred millions in the same class of investments; each succeeding year's, and even month's, returns showing a change only for the worse. Scarcely a dozen of her hundred roads now pay regular dividends, and but a solitary one commands a premium in market for its shares. Of the roads in the Middle States, the account is but a trifle more favorable. In the three rich and populous States of New York, Pennsylvania, and Ohio, at least one hundred millions more have been sunk, and the tendency is still downward. At the South, the state of things is no better; and the West, except in some favored localities, shows roads quite as unprofitable and unsalable as in any other part of the country. Gradually, slowly, but surely, is the mighty network of iron, inaugurated but a few years ago with such magnificent prospects, with steam-horse and flashing equipage, and confident hopes of boundless and endless profits, wearing and fading away, and losing its hold upon the public regard.—*Exchange paper.* [All this state of things might be greatly improved by giving a little more inducement to travel.—Ed.]

Beyond the mountains I found no car with high-backed seats to support the head, though all of them nearly are employed for night travel. One scene will suffice to describe the state of discomfort which exists with more or less force *every night* from the seaboard to the Mississippi; and I will give it exactly, and without the least exaggeration, as I experienced its inconveniences, to use a mild term. A fatiguing day's ride was succeeded by a chilly night, and our party was compelled, to make certain connections, to take a night train. It consisted of three cars, of sixty passengers each; every seat was filled, and to prevent danger, as was alleged by the conductor, each back door was locked. A wood fire was made at starting, two poor lamps were lighted, and we all settled down to enjoy a night's "rest" as best we could. Most of us fell asleep, but wakefulness on my part induced watchfulness; very soon the car became insufferably warm and close, inducing sounder sleep on the part of most. The back door could not be opened, and the windows swelled so much with the moist breath of the sleepers, or were deranged by age, that they too became immovable; the front door admitted such a rush of cold air that the sitters near declared they should die if it were opened. The conductor admitted that the circular ventilators in the top were out of order, and that there was no remedy!

I bore this as patiently as the others, only slightly remonstrating, when I was informed the scene was nothing more than usual. At twelve o'clock the two miserable lamps simultaneously went out, just after a fire had been made up. The smoke from the lard pervaded everything; the stove got red hot, and the conductor disappeared into another car. When the stench from the smoking lamps, the heat from the stove, and the influence of so many breathers were concentrated, you may imagine the condition of those so unfortunate as to be awake! At the next stop the conductor entered, and attempted in vain, by the burning of a great number of the most offensive kind of sulphur matches, to enlighten us; he opened no window or door! Need I say that when daylight exhibited us to each other, we were a sorry sight; the women were yellow and pale, and looked like hospital cases; the children were cross and unhappy; I was—what shall I say?—distressed for my companions no less than for myself, mortified at this phase of our civilization, and determined to address the controllers of our comfort in this public manner.

If managers consult their pockets, this system will not do; as you say, all who can will stay at home, while, if everything were made comfortable, all who could would travel. Calculate the difference of receipts!

One other crying evil, that cannot long remain unremedied. The roads rent their eating saloons at a high rate to parties who supply meals (mostly at truly inconvenient hours.) This high rent obliges them to study the utmost economy of supply; the result is, in thousands of instances, improper, insufficient, and unwholesome food. The butter, throughout the fertile West, at these eating stations, is often such as is used in the West Indies; the sugar, the tea, the

coffee, is of the worst description, while the time allowed to partake is often too short, rendering the profit to the vender beyond calculation.

Now, Mr. Editor, *this is all wrong*. In a social point of view, it is highly important that our people should travel, and mix, and see each other. No one does so without an expansion of mind; I am sorry to say, few do so without imminent risk of health, to say nothing of those accidents which are constantly recorded, but of which the majority are never publicly known.

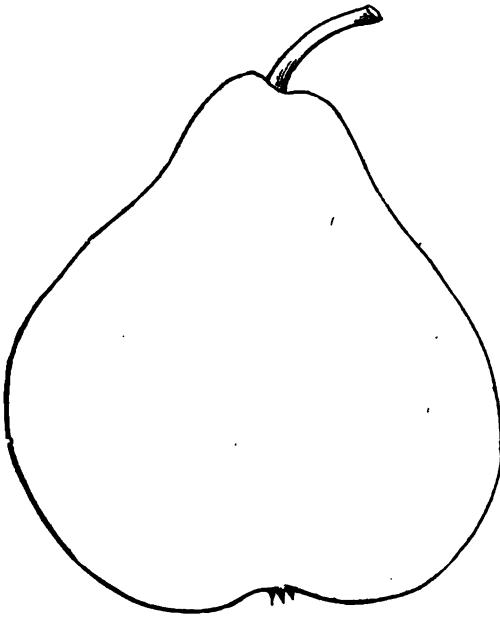
If it were not the interest of the companies to remedy these things, we might well despair. It can be demonstrated, that it will be cheaper to make some arrangement for sleepers than to place passengers in uncomfortable attitudes for a long night; because more will travel, and more will pay. A car without ventilators should be indicted; a director, above the conductor in authority, should travel the roads, and see how things are managed. The press must be brought to bear upon this subject, or we shall have to give up travelling for pleasure.

[We indorse our correspondent's general statements with regret, and have, in publishing his communication, no other object than mutual benefit to the public and the railroads. We witnessed a night scene in every respect the counterpart of the one he describes. Further, we saw a conductor between Cincinnati and Columbus, on the slightest inspection of the ticket of a foreign gentleman of fortune and position, order him in a brutal manner to get into the emigrant train; a remonstrance produced an examination, when the ticket was found to be for the first class. At the Columbus station, we saw in the night an invalid beg to be allowed to purchase a glass of milk, the only thing he could take; though a pitcherful was on the counter, this was denied; and on the remark of a bystander that it was remarkable in so fine a milk country no milk could be purchased, he insolently observed, "That is my way of doing business." So easy would it be to make the slight required reforms, that we feel it to be a public duty to record our experience and opinion. There must, too, at length be some accommodation for invalids; a small car, furnished with comfortable sittings, &c., could be rented daily so as to pay for itself in a very short time. We have so much confidence in the good sense of our people as to feel assured the reforms will ultimately come; would that our humble efforts might hasten them.—ED.]

SPORTS.—A Scotch correspondent tells us of a case as strange as the strangest yet recorded, and more puzzling than most.

We learn that he has a gooseberry bush which bears indifferently, on each small twig, red or yellow berries, the red superior in flavor to the yellow, and both dissimilar; the reds, too, are unlike, for some are rough, and others smooth; and the yellows bear seed that is red. Had a handful of yellow berries been thrown in among the reds, and accidentally stuck to the branches, the mixture could not be more complete.

NEW PEARS.



No. 1.

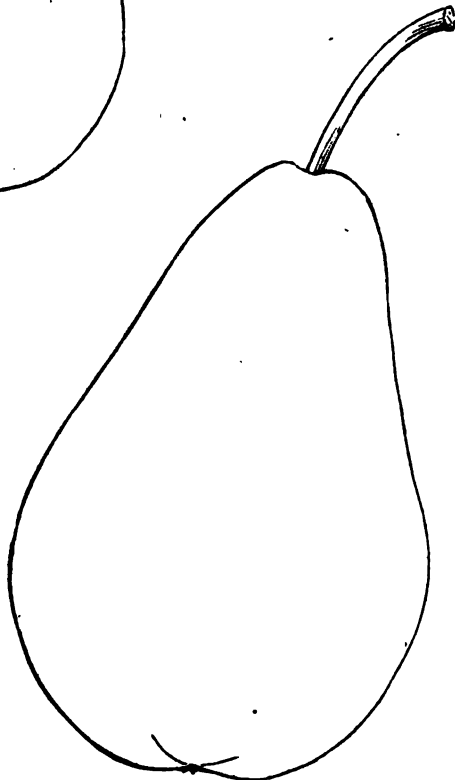
ture, buttery, juicy, highly perfumed and sugary; very good.—B.

No. 3. UWCHLAN. SYNONYMS, DOWLIN; ROUND TOP.—(Pronounced *Uke-lan*.)—This delicious pear originated on the premises of the Widow Dowlin, near the Brandywine, in Uwchlan Township, Chester County, Pennsylvania. Fruited for the first time in 1851.

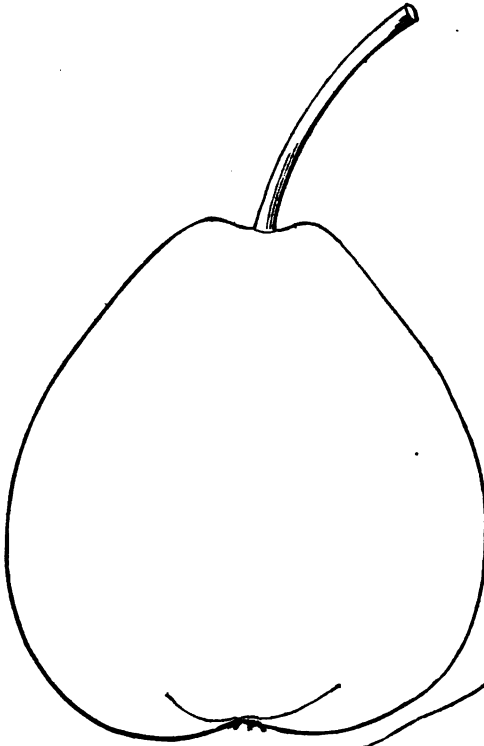
Size from $2\frac{1}{4}$ by $2\frac{1}{2}$ inches, to $2\frac{7}{8}$ by $2\frac{1}{8}$. Form obovate, somewhat compressed at the sides. Skin, cinnamon russet,

No. 1. BEURRE, MILLET.—Skin dull green, with a dull reddish blush; ribbed or knobby. Juicy, melting, with a vinous subacid, refreshing taste; very good. Tree not a strong grower, but healthy.—B.

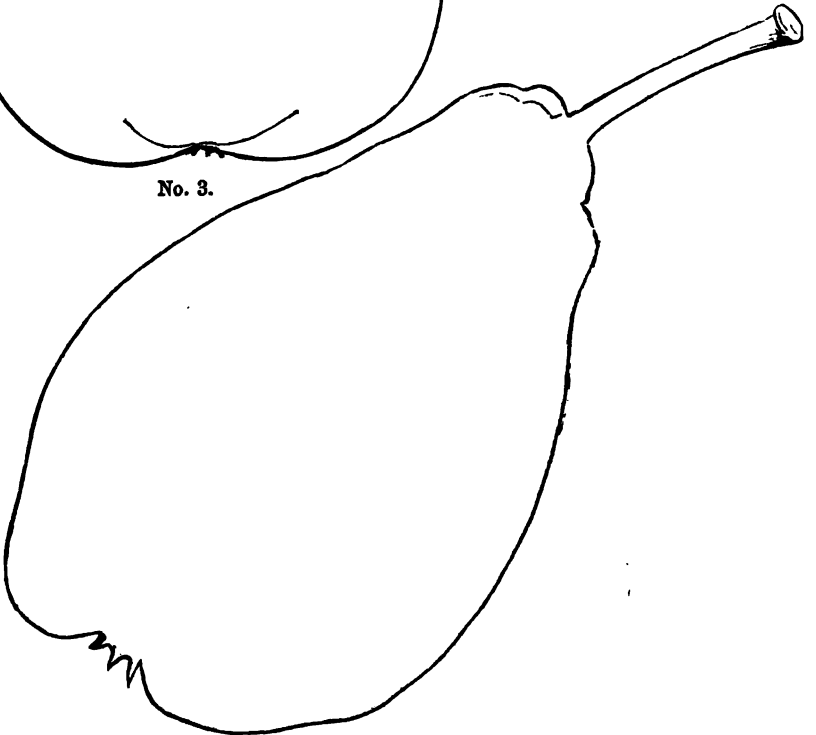
No. 2. BEURRE NANTAIS, or BEURRE DE NANTES.—Skin yellow with a crimson cheek, smooth and faintly dotted with greenish or gray, of fine tex-



No. 2.



No. 3.



No. 4.

interspersed with patches, irregular markings and dots of fair yellow, giving the exterior a mottled appearance of russet and yellow. *Stem* from 1 to $1\frac{1}{2}$ by $\frac{1}{8}$ of an inch, inserted by a slightly fleshy termination, with little or no depression, and occasionally on to a flat surface; the stem has a peculiar tendency to form wood buds, and on the stem of one specimen there were three well developed buds. *Calyx* rather large, with the segments partially reflexed, and set in a wide, moderately deep, sometimes irregular basin. *Core* me-

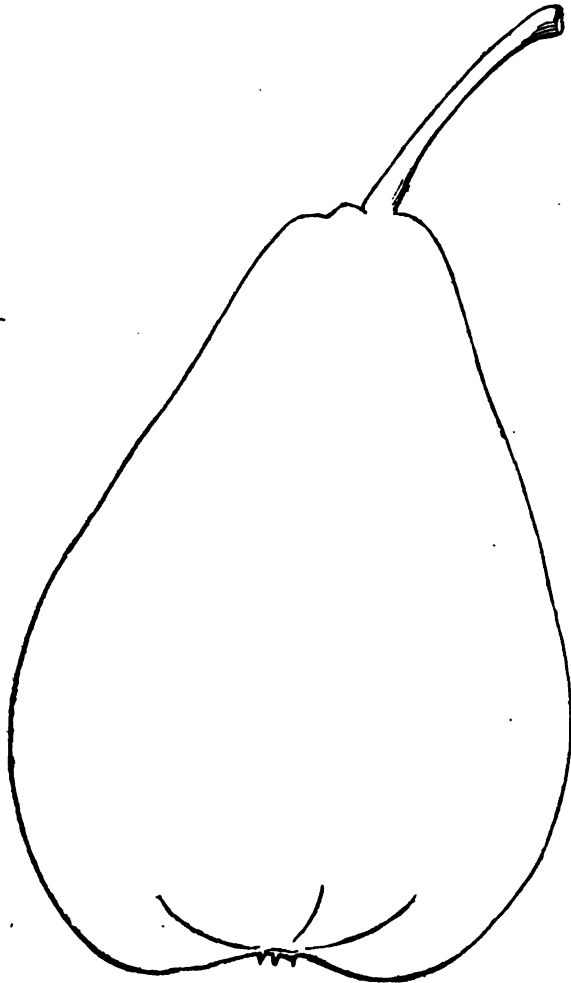
dium. *Seed* black, $\frac{1}{8}$ of an inch long, $\frac{1}{8}$ wide, and $\frac{1}{16}$ thick, with an angle at the obtuse end. *Flesh* fine texture, and buttery. *Flavor* delicious and saccharine; *quality* "very good." *Maturity* third week in August.

Old wood grayish brown. *Young shoots* yellowish brown, with short jointed prominent buds.—W. D. B.

Nos. 4 and 5. GRASHLIN (sometimes spelled Grashlin).—Large, 4 inches by 2 $\frac{1}{2}$. *Form* long obovate. *Skin* yellow, with many green russet dots and patches. *Stem* 1 $\frac{1}{2}$ inches long by $\frac{1}{2}$ in the middle, gradually thickening towards both extremities, inserted by a fleshy termination without depression, with a fleshy lip on one side. *Calyx* open, long segments, set in a small, shallow, furrowed basin. *Core* medium. *Seed* often abortive. *Flesh* fine texture, buttery. *Quality* "very good." *Maturity*, eaten October 22, 1855. (Grown by Mr. Buist.)

No. 5. Same as No. 4. (Grown in France. Eaten November 15, 1855.)

Specimens of the fruit of this fine foreign variety were exhibited by Mr. Robert Buist, at the October meeting of the Pennsylvania Horticultural Society; and on the 15th of November, fine specimens were received from Paris by a steam vessel.—W. D. B.



No. 5.

A DAY AT KEW GARDENS, LONDON.

No. I.

BY THE EDITOR.

FORTIFIED with a letter of introduction to Sir William J. Hooker, who fixed the hour of one o'clock to conduct us round these wonderful gardens and museum, it may well be supposed punctuality was among the virtues enlisted. The letter was from one of our most distinguished American botanists, a friend and correspondent of Sir William's, and most happily did it accomplish the object of affording the writer a day of unmingled enjoyment. At the appointed moment, our fascinating guide entered the gate—and, in company with an English lady and gentleman, who had earnestly solicited to be taken along to view these national gardens under such an instructor, we commenced our explorations.

Sir William J. Hooker, the "Director," is a Scotsman of prepossessing appearance, tall, of gentlemanly bearing, and full of information, which it seems to be his greatest pleasure to impart. He was frequently recognized and shaken by the hand by men of eminence and station, who, seeing his previous engagement, were content to follow in our wake and listen to his words of wisdom and information. At one moment, a gardener, who was going out on an exploring expedition of three years' duration for new plants, stepped up for his final instructions; they were brief and to the point, and the employer and employed parted as if for no longer a period, and with no more ceremony than if their separation was to have been for an hour.

"We will go first to the Economic Museum," said our polite guide, "that you may see my *results*." What follows is taken from our own memoranda as well as from a "guide" to the gardens issued in 1855, where we often find the very words used in verbal explanations; thus serving to complete a reminiscence which can never be forgotten.

The Museum was evidently a great hobby with the "Director," and we can perceive by the new catalogue that it so continues. It is a depository for all kinds of useful and curious *vegetable products*, which neither the living plants of the garden nor the specimens in the Herbarium could exhibit. It renders great service, not only to the scientific botanist, but to the merchant, the manufacturer, the physician, the chemist, the druggist, the dyer, the carpenter, and cabinet-maker, and artisans of every description, who may here find the raw material (and the manufactured article), employed in their several professions, correctly named, and accompanied by some account of its origin, history, native country, &c., either attached to the specimens or recorded in a popular catalogue. Nobly has this project been carried out, and the aid from every source has been an evidence of its utility and popularity. At this moment, a number of our friends and neighbors are preparing a collection of specimens of American woods for this museum,

under the direction of Dr. William Darlington, of this State. The British Government have given facilities of transport for everything going to Kew. The elder Mr. Cunard came up for a friendly shake of the hand, and we were introduced to him as "My kind friend who transports for me without any charge whatever."

To a commercial nation, ready to seize upon every article that can be turned to economic account in manufactures, this scheme has proved of immense importance; textile fibres, gums, resins, dyestuffs, starches, oils, woods, tannins, drugs, food for man, basket-work, all the products of straws and grasses are assembled. Let us listen to Sir William's fluent talk, which cannot dwell long on anything, so numerous are the objects we have to view.

Here are the fruits of the yellow water-lily, *nuphar lutea*; the leaves are said to be styptic; the flowers have a brandy-like smell, and the pistil is shaped like a flask, whence the name of "Brandy-bottle." Next is the poppy family. Six millions and a half pounds of opium are annually bought up as a source of revenue to the East India Company. Little more than one hundred thousand pounds is required for England per annum, but it is calculated that twenty millions of pounds are annually consumed by mankind. You see all the processes of manufacture in the plant, the pictures, the implements, and the article in all its stages.—Horseradish-tree family, order *moringaceæ*. This natural order, of doubtful position, is now generally placed near the violet family; it is confined to one genus, *moringa*. Ben-oil, pods and seeds of *moringa pterygosperma*; an Indian tree, cultivated in Jamaica. Its pure fixed oil is much used by perfumers on account of its not easily becoming rancid, and by watchmakers, because it does not freeze. The roots have exactly the flavor of horseradish; pods used in curries.—Manna of Mount Sinai; it is an exudation from tamarisk *mamifera*, occasioned by an insect, a species of *coccus* which inhabits the shrub, and this manna consists wholly of pure mucilaginous sugar.—Here is a native shoe-blackening! among the cottons; the beautiful flowers of *Hibiscus Rosa-Sinensis* are used by the Chinese to blacken their eyebrows and their shoes. Soapwort, *saponaria officinalis*; bruised and agitated in water, it raises a lather like soap, and may be used as a substitute for it. Cotton specimens of every description, and its manufactures. Spun to the fineness of eleven hundred and forty-five miles per pound, it is too fine for anything but to be looked at. You are an American, and want to see something new.—This is the Boab, or monkey-bread fruit, *adansonia digitata*; the product of one of the most remarkable trees in the world. The wood is pale, light-colored, and so soft that in Abyssinia the wild bees perforate and lodge their honey in the trunk, which honey is considered the best in the country. On the west coast, its trunks are hollowed by the natives, and their dead deposited therein, where they become mummies.—Nuts of the Kola, *sterculia acuminata*, Africa and West Indies; they have a pleasant, aromatic taste, and are much esteemed by the negroes as promoting digestion; they also prevent sleep, and are used by the native watchmen to keep themselves awake. Bags of the *sterculia villosa*; they

are quickly made, by steeping logs and stripping off the bark; used for conveying goods in the Goa country.

Jute paper, excellent and recently prepared from old gunny bags; from the *corchorus capsularis*. A manufacturer of the finest pocket-handkerchiefs has discovered in the fibre of the despised gunny-bag, a material of immense value—you see the great fineness of the handkerchiefs.—Tea family. Here is “the Old Man’s Eyebrow Tea;” it is done up, as you see, in short twisted sticks, and perhaps bears allusion to the legend of some Chinese saint tearing off his eyebrows and throwing them on the ground, where they sprouted into tea-plants; representations of this wonderful transformation you see on those Chinese screens!—Order, *aurantiacæ*, orange family. They are looked upon as the golden fruits of the *Hesperides*, whence Jussieu called this family *Hesperideæ*. Here are all the oils of the family, and the toothpicks and walking-canes so much esteemed, made from the wood in Madeira and Rio Janeiro.—Product of the butter or tallow-tree, *pentadesma butyracea*; a yellow fatty substance.—You see all the products of the coca-tree, used extensively by the laboring classes, especially the miners of Peru, for its remarkable powers in stimulating the nervous system; in this respect, resembling opium.—And here among the maple sugars, &c., is an *American clothes peg*! made of maple-wood (an article still a great curiosity with many English people from its strong contrast to their clumsy peg made in three pieces and bound with tin, which rusts, and iron-moulds the clothes!).—Look at the various products of mahogany! A single log has been sold for fifteen hundred dollars.—Zante currants; they are a grape of the *vitis vinifera*, and originally from Corinth.

So we proceed, talk succeeding talk, and every word having its meaning. The order *geraniaceæ*, *Cranesbill* family. You know the *geraniums* and *pelargoniums*, but do you know that one species, the *spinosum*, is so resinous that the dead stems become masses of resin in the sands of South Africa, retaining their form, and they burn like a torch, giving out a most agreeable odor?—Here you see the large cotyledons of *simaba cedron*, from New Granada, where it is considered to supersede the sulphate of quinine.—The wood and jujubes of *zizyphus vulgaris*. *Z. spina Christi* is considered by some to be the thorn with which our Saviour was crowned.—Pease earth-nuts; tubers of *lathyrus tuberosus*, much eaten in Germany during the period of the potato panic.—Flower buds of *sophora japonica*, much used as a dye in China and Japan.—*Mimoseæ*; ordeal, or red water-tree bark. The red juice is given in large draughts to those accused of crime, and those who can withstand the ordeal, are innocent, but the priests know how to mix it to kill or not!—Mangrove family; the branches send down aerial roots; the seed germinates while still attached to the parent, and falls down a young plant.—Monkey-pot family; the lidless capsule is used for catching monkeys. Sugar is put in the small opening which enlarges within, so that when the animal has grasped the sugar with his paw, he is unable to extract it, and the very heavy seed-vessel acts as a clog to him, from which he cannot disentangle himself.

—Water-chestnut family; some with a little imagination, or a very little assistance from a knife, are very much in the shape of a bull's head, are much eaten.—Papaw fruit, carica papaya, South American. The juice of the entire plant has the property of making old and tough meat tender.—When we visited Kew, Sir William was very desirous of procuring the Chinese rice-paper plant, and we see he has lately succeeded. It is the pith of the *aralia papyrifera*, from Formosa, cut into small sheets, and it is a great article of commerce with the Chinese.—Prepared coffee-leaves, much used in Sumatra, instead of the berry.—Chinese insect wax, or pela, with the insect; this wax is imported from China, and candles are dipped in it, to render their exterior hard.—Gutta percha; the tree, the juice; numerous manufactured articles from it; in fact, the whole processes are before you.—The tree that produces *Cuba bast* for tying up cigars has not yet been procured, and is much wanted.—Jumping or moving seeds. Lobes of a capsule of some euphorbiaceous plant, from the Pacific side of South America, which move by jerks, and have almost a jumping property. This is found to be occasioned by the sudden and peristaltic movements of an insect within, and of which the egg must have been deposited in the state of the flower, for the shell has no perceptible aperture or wound whatever.

But we must not trespass too much, to-day, on our limited space; next month some still more remarkable things may find a place, with the history of our English lady going down on her knees with parasol hoisted, fairly overcome with fatigue, as, indeed, any one might well be who attempted to follow the indefatigable "director" from one o'clock till a late sunset.

FOREIGN SEEDS AND ROOTS.—Mr. Browne, who was sent out to Europe some three months since, for the purpose of procuring seeds and agricultural information for the use of the Agricultural Department at Washington, has returned. He has travelled during his absence through portions of England, France, Belgium, Holland, Prussia, Hamburg, and Denmark, having made arrangements for the purchase of various seeds, roots, and cuttings suitable for the several climates and seasons of the United States, some of which have already been shipped, and will soon arrive. The seeds, it is understood, are principally to be distributed among members of Congress and the different agricultural and horticultural societies of the Union.

SECOND CROP OF BLACKBERRIES.—Mr. Thomas Smith, of Chappaquiddick, near Edgartown, Mass., recently exhibited in that town a quantity of dark red blackberries grown on his premises, being the second crop this season.

NOTABLE THINGS IN THE PARIS EXHIBITION.

(FROM CHAMBERS'S JOURNAL.)

SOME of the things exhibited are well worth attention. There is Beaumont and Mayer's thermogenic engine, which heats water and generates steam without fuel or fire. As yet, its applicability to mechanical purposes is not apparent; but ways have been found of turning it to account. It is kept fully employed in heating the chocolate sold in thousands of cups; this is without any breach of the law that prohibits fire within the building. And the Emperor ordered one to be sent to the Crimea, where, in case of the troops having to pass another winter, it would serve to heat soup, coffee, or water, whether fuel was to be had or not—no unimportant consideration during a campaign. It may supply heat to the cooking-galley of a ship, as well as to the chocolate-establishment; and thus a source of danger from fire on shipboard may be avoided.

The construction is simple enough. A boiler is made, traversed by a conical tube of copper, 30 inches diameter at the top, 35 inches at the bottom, inside of which a cone of wood of the same shape is fitted, enveloped in a padding of hemp. An oil-vessel keeps the hemp continually lubricated, and the wooden cone is so contrived as to press steadily against the inside of the copper, and to rotate rapidly by means of a crank turned by hand or horse-power. The whole of the boiler outside of the copper cone is filled with water. Thus constructed, the machine, with 400 revolutions a minute, makes 400 litres* of water boil in about three hours by the mere effect of the friction of the oiled tow against the copper. When once the boiling-point is reached, it may be maintained for any length of time, or as long as the movement is continued. It is quite easy to keep the steam in the boiler at a pressure of two atmospheres, where, besides the uses above mentioned, it blows a whistle as lustily as any locomotive.

There is also the process for preserving vegetables, and another by which fresh meat may be kept perfectly sweet, for perhaps an unlimited time. There are legs of mutton, loins of veal, poultry, &c., in the Exposition, which were prepared three years ago, and are still as good as on the first day of their treatment, and show no signs of alteration. They have all the odor and appearance of meat recently killed, no taint or shrinking being perceptible. There are fruits, also, preserved in the same way—bunches of grapes, melons, apples, &c.; and vegetables, among which a cauliflower is as plump and bright with bloom as if but just brought from the garden. What renders the process the more remarkable is, that no pains are required to exclude air from the things preserved, a wire-screen alone being necessary to keep off flies and other insects. A three years' trial may, perhaps, be considered decisive; and now there remains to see whether place

* A litre is about a quart.

or climate affect the result. If not, the discovery—if such it be—may be regarded as one likely to prove highly beneficial. One of our most eminent savans was offered a leg of mutton on his departure from Paris, that he might convince his friends in England of the reality of the process for preservation. What the process is, remains a secret; but we have heard whispered by a distinguished chemist that it consists in nothing more than brief immersion in very weak sulphuric acid. The acid, it is said, so coagulates the albumen, that a coat is formed on the surface of the joints, impervious to the air, and without affecting the flavor.

GOSSIP FROM THE NORTHWEST.

BY J. F. TALLANT, M. D., BURLINGTON, IOWA.

DEAR SIR: Many of your friends and readers here, in what was once the "Far West," are disposed to pick a crow with you for preferring the cram and jam of the Illinois State Fair, in Chicago, last October, to the cosy and quiet chat which you might have enjoyed with a dozen or two harmless enthusiasts in pomology, had you accepted the pressing invitation which was sent you to mingle with us at the meeting of the Northwestern Fruit Growers' Association, in September last. Very certain we are that you would have seen much more comfort and enjoyment here than among the almost terrific multitude which was gathered together in Chicago.

Your predecessor, Mr. Barry, is kindly disposed to praise us somewhat in your November number, and to intimate that some of our trees, and pears in particular, grow luxuriantly and bear rather large fruit. With his large experience, having visited most of the pear-growing regions of Europe, he ought to know, after so favorable an opportunity of inspecting specimens as was afforded at the meeting of the Fruit-Growers' Society, though we were not aware of the fact before, except as informed by Eastern cultivators. I have now before me a shoot taken from a Bloodgood pear-tree dwarfed on quince, that is upwards of an inch in diameter at the base, and more than seven feet in length, being crowned with large branching limbs. It is of this summer's growth, and was a truant, not having been detected among the foliage of the tree till the leaves had dropped. Is such a growth common with this variety?

Many of the trees in the garden from which this was taken, are upwards of eleven inches in circumference at the surface of the ground, and more than fifteen feet in height; well furnished with limbs from base to pinnacle of the pyramid or cone, and are by no means the "bony" specimens you have doubtless seen in many gardens. They are on Angiers quince, were one year from the bud when set out in the spring of 1851, and have borne fruit of unusual size and beauty

the two past seasons. A *Beurré Diel* tree, that bore some five dozen pears this summer, produced specimens weighing twenty ounces, or $1\frac{1}{4}$ lb. avoirdupois. The total weight of the fruit was sixty-five pounds, or upwards of a pound each, on the average. The soil here abounds in silex or flint, and was known as *Sho-kon*, or the *Flint Hills*, by the Indians, and was a place of resort by them to obtain flints for their guns. Can it be this ingredient in the soil which proves so favorable to the growth of fruits? Certain it is that, at this exhibition, the fruit of this locality was finer than almost any other in the country.

Mr. Barry was so much in demand when here, and found so many persons anxious to avail themselves of his superior knowledge and experience, that it is not surprising he should have erred somewhat in some of his observations. It was not the *Brandywine* pear that he saw flourishing so well on the quince, but a twin brother, I believe, the *PENNSYLVANIA*, a variety well worthy the name of the noble keystone State. Many of the pears weighed ten ounces, but were past their season at the time of the Fruit Growers' meeting. This variety may be safely set down as sure to succeed well on the quince at the West.

Can we not persuade some of the sagacious fruit-growers of the East to come this way and establish a large pear plantation in some of the many favorable localities to be found hereabouts? The past five years have settled the question beyond a doubt, that pears will be a profitable crop on the quince, and any one who inspects our trees and fruits at the proper season must be satisfied of this. Nowhere will the pear bear more uniformly and abundantly, or look more thrifty and healthy, or produce larger or better flavored fruit—that will command the very highest price in the Atlantic cities. It is true that several years will be required to mature a crop from trees just planted, but while they were growing, the cultivator could do a very profitable business by raising strawberries for the Chicago market. This fruit does remarkably well here, requires but one season to be in market, and the Chicago demand could not be supplied by any one or dozen growers. The strawberry is in its prime here at the end of May, but around Chicago it does not ripen till the middle of July. No other point is so favorable as this for this business; the northern railway connections with Chicago being too far north, and the southern points being too remote. At this distance, the fruit could be gathered during the day, sent forward by the night train, and be in market the next morning. Last July, strawberries bore the *moderate* price of twenty-five cents a dish at the fruiterers, or fifty cents per quart in market, in Chicago. As heavy a business could be done in this line, as the Cincinnati growers have been doing for years past.

BURLINGTON, IOWA, Nov. 12, 1855.

Editor's Table.

AMMONIA IN HOTHOUSES.—When it was discovered that ammonia is derived from the atmosphere, and that it descends in rain, a new light was thrown upon the refreshing and invigorating effect of heavy showers, which act not merely by their water, as once was thought, but also by the carbonate of ammonia which they bring down. So far as agriculture is concerned, this is, however, a truth devoid of possible application, because the volatile carbonate cannot be advantageously used artificially through the agency of the atmosphere. But it is otherwise with gardeners, who have to create an artificial atmosphere in a confined space. It is not a little remarkable, then, that so simple an agent, so easily procured, and applicable with so little trouble, should scarcely ever have been employed in hothouses in the proper manner. Where it has been used, it has been almost invariably when dissolved in water and applied with a syringe. Professor Lindley at length gives the proper mode of application; doubtless many have thought of it, but the present will, we believe, be the first correct instructions on the subject in this country.

The carbonate of ammonia of the atmosphere is suspended, dissolved in invisible vapor. In this state it is incessantly in contact with every part of the foliage. When rain falls, the ammonia disappears for the moment, passing down in the rain drops to the ground, and thence arriving at the roots of plants. But if it is in gardens first dissolved in water, and then thrown upon plants with a syringe, natural conditions are by no means imitated. It reaches no part except that on which the water falls, half the upper surface and nearly all the under surface of the foliage is missed, and it is scarcely detained even upon the parts which the water actually touches. The proper course is to throw it into the air in the form of gas; this is easily effected in the following manner:—

When a greenhouse or hothouse is shut up, warm and damp, rub upon the heated pipes, the flues, or a hot piece of metal, a small piece of carbonate of ammonia *with some water* (not dry); the peculiar smell of smelling salts will be instantly perceived, and, if this is done at the two ends of a house, as well as in the middle, the air will rapidly receive a sufficient charge of the substance. After it has been allowed to remain about the plants for a short time, some gardeners would syringe their houses freely; but it is doubtful whether that is the best plan, provided the air of the house is naturally damp. The effect of this simple application is very remarkable, quickly producing a visible change for the better in the appearance of the plants.

But *caution* must be used in the application. A piece of carbonate of ammonia as large as a quarter of a dollar is sufficient for a charge in a stove 40 feet long; and it is indispensable that it should be volatilized by *rubbing it in water*, otherwise its causticity is too great, and leaves are burnt.

ANSWERS TO CORRESPONDENTS.—(A. C. IVY.) By a little management you may have your ivy to cling perfectly. Whenever a branch grows without attaching itself to the wall, cut off the loose part close to a leaf, beneath which the attachment is perfect. Continue this process till the wall is covered, and ever afterwards cut away all hanging branches, or by the force of the wind they will detach others besides themselves. When the ends of growing

ivy once lose their hold, they are never still sufficiently long to be able to reattach themselves; but, by cutting away to the point of contact, they are enabled to proceed in the new growth, and thus to hold fast. Cut off the hanging branches as soon as seen; for, by swinging about in the wind, the injury is constantly increasing.

(P. W.) *MIGNONETTE*, in its native country, Barbary, is a shrub, and not an annual as with us. It should be sown in a light sandy soil, as when it is grown in a stiff soil it loses its fragrance. When it is wished to obtain the tree mignonette, a vigorous plant of the common kind should be chosen from the seedlings sown in April, and put into a pot by itself; all the summer the blossom-buds should be taken off as fast as they appear; and, in the autumn, the lower side-shoots should be taken off, so as to form the plant into a miniature tree. It should afterwards be transplanted into a larger pot, with fresh soil formed of turf broken into small pieces, and sand. The plant should be kept in a greenhouse or warm room all the winter, and regularly watered every day, and in the spring the stem will begin to appear woody. The second summer the same treatment should be observed, and the following spring it will have bark on its trunk, and be completely a shrub. It may now be suffered to flower, and its blossoms, which will be delightfully fragrant, will continue to be produced every summer for many years.

(T. A.) Many gardeners are very particular in planting a tree with the same side exposed to the sun as it had in its former position. Some of them say, if this is not attended to, the plant loses a portion of its strength in trying to get its branches into the same position with regard to the sun as it was before. Whether this is so or not, as no injury can result from thus planting, we can see no reason why it should not be practised. A slight mark on the north side before removal would be all the trouble.

(A. A. HULL, Mount Pleasant, O.) 1. The sweet and sour apple—sweet in one part and sour in another—was noticed so long ago as in *Cox on Fruit Trees*; also in *Thomas's Fruit Culturist*, and in *Elliott's American Fruit Grower's Guide*. But the notion that it is produced by the junction of sections of a bud, as you suggest, from a sweet and sour variety, is entirely a fiction. The "sweet and sour" apple is a monstrosity raised from seed, and is propagated by grafting or budding in the usual way.

2. Different kinds of raspberries, when planted in close proximity, will fertilize each other. No evidence, however, of this cross fertilization will be manifested by the size, form, color, or flavor of the berries thus produced. But when the seeds of such berries are planted, then the resulting plants may be expected to show the effects of the hybridization.

3. American arborvites, to produce a "windbrake," may be planted two and a half feet apart. To raise them from seed, practise the same method as recommended for the hemlock in the last volume, page 517. Where you can procure the small plants at one cent each (say from Maine), this will be a more rapid mode.

"WHAT IS A REALLY GOOD PLANT?" (A. M.) We should say that there are four points or properties to constitute a really good plant: first, fine evergreen foliage; second, handsome sweet-scented flowers; third, abundance of bloom produced in succession for a long season; and fourth, easy of culture and propagation. And, for an example, we would instance the *Stephanotis floribunda* as possessing all these.

QUESTION. I have a large dog-rose, on which a skilful gardener has budded many kinds of fine roses the past July. The buds have all taken. Should it be strawed up, covered with cedar boughs, or left to the hands of nature? S.

If the buds are of very scarce and valuable kinds, which it would be a great loss to lose, wrap some cotton around each bud, as occasionally they will get killed in winter. As a rule, buds of this kind are left to themselves, and generally survive to give a good account of themselves the next season.

"PARSLEY." Nothing agrees better with parsley in old worn out garden soils, than half burnt weeds and rubbish intermixed with the deeper subsoil.

(A SUBSCRIBER, Newark, N. J.) That enormous pear shall be figured as soon as possible, if, indeed, it will not overrun one of our pages!

DR. WARD will accept our thanks for a large basket of winter pears in fine condition. The "Vicar" we found delicious.

(W. A. G., New Orleans.) The barrel of oranges and pecan nuts came to hand in the best condition, and were as fully appreciated as you could desire.

MARIETTA, Penn'a.—DEAR SIR: A few days ago I examined, for the first time, though well aware of its existence, your elegant horticultural publication, and am so highly pleased with its contents, beauty, and value, that I feel disposed to exert myself in its favor. This locality is proverbially the most fertile and wealthy in the State (Donegal Township), and particularly adapted to the cultivation of fruit. No place can be found where the peach, apple, &c., grow more luxuriantly than on our alluvial banks of the Susquehanna, or where the fruit is produced more perfect. We frequently escape the effects of late spring frosts, when further inland they are very destructive to the early blooming kinds. The peach here attains its largest size and highest flavor; but, owing to its vigorous growth, the tree is not long lived.

With all the natural advantages possessed by the owners of the soil for the profitable culture of fruit, comparatively little attention is paid to it, and they are suffering by the neglect. Why this apathy in a matter that would so greatly enhance their yearly profits, and so materially add to the comfort of themselves, their families, and neighbors? Our farmers are intelligent and enterprising, and ready to embark in anything that will pay. It must be that they are uninformed upon the subject of the profits of fruit culture, and the superior excellence of the new varieties in comparison with the old familiar sorts. That it is the want of information on the subject I am assured from the following circumstance. Last spring, I mentioned to some friends that I was about ordering some fruit-trees, when they immediately requested me to order also for them. Others heard of it, and I soon had orders amounting to over \$400. These have all been planted in our town and on adjoining farms. This is a beginning made with scarcely an effort, and I think the introduction and general circulation of your interesting and valuable periodical would tend materially to advance the good work. Yours, &c.

JOHN JAY LIBHART.

[This is the right spirit. Hundreds of communities within reach of profitable sales in Philadelphia only want a little stirring up by such a person as our correspondent, to be competent to pour into our market thousands of dollars' worth of good fruit to their own great advantage and the health of our fellow-citizens. The good work has begun; it shall be the business of the *Horticulturist* to foster it.—Ed.]

THE HORTICULTURIST.—DEAR SIR: * * * I have been looking over several publications of merit respecting horticulture lately, and am greatly interested to observe how much is advanced the work you now have in charge seems to have been, on many of the topics discussed. Reports are often repetitions of the pages of your periodical. Year books copy extensively from your recent pages. State agricultural reports are likewise followers; they often are only pourings "from one bottle to another." If the whole of the *Horticulturist* were burnt in the grandest of Suttees on the funeral pile, it would only be like cutting down an oak after its acorns have sowed a forest. Yours,

PERRIRA.

CHISWICK EXHIBITION.—All our readers who remember the splendors of the Chiswick Horticultural Exhibitions, near London, will regret to hear they have been given up as unprofit-

able, nay, a serious loss. They will be superseded by the system of enlarged exhibitions in London, as of old. The cheerful music, the gay and well-dressed throng of visitors, the beauty of the gardens, the fruit, and the flowers, united to the pleasures of the promenade in the fresh air (when it did not rain!), were beyond description.

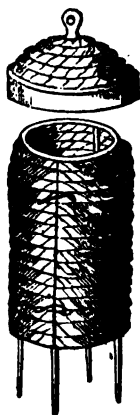
PETER COLLINSON and BROWN, the landscape gardener, were frequently brought together; the first had the newest American trees from our Bartram, which, of course, were in demand by Brown. The latter used to relate a characteristic request to Lord Bute from Peter:—

"If a hare should chance to stray,
Ticket his feet and send this way."

To which his lordship replied:—

"A hare I have found, and ticketed his feet
To Peter Collinson, of Gracechurch Street."

COVERING HALF-HARDY PLANTS.—For covering half-hardy plants, or screening from dry winds, various means are employed. In France, a basket is constructed, of two semi-cylinders, constructed in the mode of straw hives. To these are fixed solid feet of wood to drive into the ground. If it is necessary to shelter one plant from east or northeast winds, one cylinder is sufficient; but if it is a plant which you are forced to protect, is delicate, and requires a more complete protection, you inclose it between the two semi-cylinders, fixed one to the other by means of hooks represented in the drawing. A lid of the same construction, furnished at its edge with a circle of woodwork, is fitted, when necessary, on the cylinder, and thus, perhaps, offers a more effectual shelter against the severity of cold winds and excessive heat than any other. These sorts of shades are light to move, very solid, and very warm; for, letting but little of the exterior air penetrate, they preserve at night the heat which accumulates in the interior. They would also guard plants well from the sun, and thus offer a means of checking the natural perspiration of green parts. Probably nothing could be invented more suitable for the protection of young plants, like the *magnolia grandiflora*, in this latitude, where the frozen sap is attacked by the sun, and the leaves in young specimens annually killed. For protecting the stems of grafted roses from the summer sun, they might be made of basket willows.



SWEETBRIER.—The sweetbrier makes a highly ornamental hedge. It ought to be more common here.

ROOT GRAFTING THE ROSE.—An English gardener writes on this subject that, "just as the buds were swelling, he pulled up an old rose bush, cut off some of the strongest roots and grafted them with *La Reine* and other good sorts, potted them in small pots, leaving a couple of buds above the soil, and placed the pots in a close cold pit. All, or mostly all, are now nice flowering plants, and the pots full of roots. I am not aware that this successful mode of propagating is at all generally practised. Every cutting of new roses might thus be grafted, and with a better chance of success, apparently, than making cuttings."

A CHERRY, PRÆR, AND NECTARINE.—At the last meeting of the British Pomological Society, Mr. Rivers, of Sawbridgeworth, produced fruit of *Lemercier Cherry*, which were large and very beautiful. This is a distinct variety of *Reine Hortense*, from which it is distinguished

by the upright habit of the tree, and the fruit being somewhat later. The fruit was very large, tender, and melting, with a very agreeable and refreshing flavor. Mr. Rivers also exhibited ripe specimens of *Doyenné d'Été Pear*, which is the earliest variety they have in England, coming in even before the *Citron des Carmes* and the *Crauford*. It is a pretty little fruit, with tender and juicy flesh, and with a sweet and agreeable flavor. Mr. Rivers brought specimens of a new seedling nectarine, which was raised from the *Stanwick*, and which he considered an improvement on that variety. We have, says the *Cottage Gardener*, had an opportunity of seeing the fruit, and feel pleasure in saying that we regard it as one of the greatest additions we have had to this class of fruits, not excepting the *Stanwick* itself, to which it is infinitely superior both in size and flavor. The fruit is very large, one of the specimens being eight inches in circumference, and of the shape of a truncated cone. It is mottled with pale and very dark red where exposed to the sun, and is of a greenish-yellow where shaded. The skin is thin; the flesh separates freely from the stone, is exceedingly tender and melting, being somewhat of a buttery texture, like the most delicate of the *Beurré Pears*; the juice very abundant, and so full of sugar as to be quite a syrup; the flavor is full and rich, and exceeds in richness that of any other nectarine. The kernel, like that of its parent, is quite sweet, like a filbert. The fruit was from a plant grown in a pot; and it was suggested that, if grown in the open ground, the fruit might even be larger. There was one peculiarity which was remarked in all the specimens, that the stone, in every instance, was cracked.

COMMON PLANTS.—A recent writer well observes: "There is nothing too common, or betokening stinginess or poverty, in having the oldest or simplest plant well grown and bloomed in a pot; everybody loves to see them. Look at the hanging plants in the Crystal Palace, and say if you ever saw so many of the very commonest plants put together before. Not one of them but the poorest man in the next village might have in his window, and yet everybody admires them. It is only that fashion requires the rich to have more costly plants, but surely there is no reason why you and I should not have them, or that we should be so foolish as to hanker after guinea plants, which are not a bit the better for being dearer."

BASKETS.—The same writer says: "Every case I recollect of seeing ivy and flowers associated, the effect was agreeable. I have seen hundreds of ladies admiring, and investigating the *modus operandi* of hillocks, or baskets of flowers, formed simply by driving rough pieces of wood into the ground, covering them with ivy, and filling the space within with earth and plants, having some of the outside rows of the latter of such a character as to interlace a little with and fall over the ivy. I lately saw a nice ivy basket on the lawn. Originally, a basket had been made, with one central stem to support it, and against this ivy had been planted, trained up and round the basket. The original basket has long been gone, but the ivy retains the shape, and bears, without flinching, the weight of the earth and plants; the diameter of the basket being, so far as I recollect, something about four feet."

THE LAW OF SLOPES!—The following is worthy of being stored in the memory: In France, the high roads must not exceed $4^{\circ} 46'$ by law; in England 4° , or one foot rise in thirty-five. A slope of 15° is extremely steep, and one down which one cannot descend in a carriage. A slope of 37° is almost inaccessible on foot, if the bottom be a naked rock or a turf too thick to form steps. The body falls backwards when the tibia makes a smaller angle than 43° with the sole of the foot— 42° being the steepest slope that can be climbed on foot in a ground that is sandy. When the slope is 44° , it is almost impossible to scale it, though the ground permits the forming of steps by thrusting in the feet. A slope of 55° to man is quite inaccessible.

MILDEW ON THE VINE.—A scientific gardener declares, in the *Cottage Gardener*, that wherever he has seen the mildew prevail most in hothouses, it has been where great numbers of plants were grown in the same house. The moisture arising from the necessary waterings caused the mildew to spread rapidly. Few plants in the vinery, and a free circulation of air—especially in the morning—to carry off the damps, are highly important.

STRAWBERRIES.—A refinement in strawberry culture may be practised with advantage where expense is no object. *a*, a bed of young strawberry plants with the tiles placed around them. *b* shows the end of a bed, with the tiles placed down without the plants. *c* shows the end of a bed with the fruit and foliage upon the tiles. It would be injurious to the plants to place these tiles around the plants early in the season, as they would deprive them of rain during the growing season; but, just as the blossom is appearing, it is an advantage, as the fruit would lie dry and clean on the upper surface. These tiles are so constructed, on flange-like edges, as to give a good circulation of air below.



ROSE CULTURE.—Four things are absolutely essential in high rose culture—a rich and deep soil, judicious pruning, freedom from insects, and watering when requisite. If any one of these be wrong, the success will be in proportion incomplete. Soil is the first consideration; what is termed a sound loam, they all delight in; the soil should be adapted to the stock rather than the scion, or kind worked on it. The common, or dog-rose stock thrives best on strong loamy soil, in half-shaded situations near water, without manure; cultivated roses require the latter because they have more hard work to do; their amount of blossom, if weight alone be allowed as a test, would, in most cases, doubly and trebly exceed that of the dog-rose—added to which they have less foliage.

Roses, on their own roots, require that the soil be modified according to kind; we should not use so adhesive a soil to a Tea or Bourbon rose as to ordinary kinds; organic matter is here required. Depth of soil is of great importance to all kinds; it is the deeper series of fibres, situated in a proper medium, that sustains a good succession of flowers, in defiance of heat and drought.

Judicious pruning reduces the rampant growths, and increases the energies of those which are of a more delicate constitution, relieves from superfluous shoots and useless wood, and reduces the whole outline to a compact or consistent form. Insect ravages must be guarded against—tobacco water or fumes will do this; bathing them twice a day with water from a barrow-engine is only objectionable from the time required. If you have not provided deep culture, watering, in dry times, will be requisite; but this should be done thoroughly rather than frequently, and the surface soil should be frequently stirred without injuring the roots. Liquid manure—say two ounces of guano to a gallon of water—should be given once a week. With this treatment, every one may have fine roses.

COLOR AND ODOR OF PLANTS.—MM. Fremy and Cloez have extracted and isolated the blue coloring matter of flowers—a highly delicate operation. It is not indigo, as was supposed; they call it cyanine. It is turned red by acid vegetable juices, and they find it in certain roses, peonies, and dahlias. Viale and Latini, of the University of Rome, have, as they

believe, confirmed the supposition that the odor of plants and flowers was due to ammonia; the odor being good or bad according to the proportions in which the ammonia was combined. From this it is shown that plants are doubly beneficial, by absorbing ammonia, as well as exhaling oxygen. We must remark, however, that some chemists dispute the accuracy of these conclusions.

SCUDRY MATTERS promised for this month have been crowded out unexpectedly, among them communications from valued correspondents on subjects of permanent interest from Cincinnati, New Jersey, &c., but for which room will be found in our next. The delay in publishing the report of the Pennsylvania Horticultural Society, was unavoidable. Interesting matter for the *Horticulturist* is now crowding in upon us.

The "Calendar of Operations" which we commence, it is intended to carry through the year, forming a feature that many have regretted the absence of in former volumes. It will make the present a valuable book of reference for the future, as well as the present time, and is by an able hand.

THE POULTRY EXHIBITION in Philadelphia, a few weeks since, was very successful and useful. The Governor of the State attended and made a very good speech.

IS GRAPE CULTURE AND WINE MAKING FIRMLY ESTABLISHED AMONG US?—This question we put to a distinguished vine-grower in Cincinnati, R. Buchanan, Esq., more to satisfy some friends than to clear up any doubt of our own. The following is his reply: "I am happy to be able to say that, in the West at least, I consider the vineyard culture of the Grape firmly established. It is also increasing with great rapidity all over the West and Southwest. The sale of grape-cuttings in Cincinnati last spring amounted to over 2,000,000, and of stocks 300,000. I sold from my own vineyard 140,000 cuttings. This looks like progress. The demand for the wine fully equals the supply, but the hard times of last year caused an accumulation of the stock of sparkling Catawba (the most expensive of our wines), which will take another year to diminish. I repeat to you in all candor my opinion, that the vine culture is now established as a branch of national agriculture that cannot retrograde. It has also the sympathy of the moral part of the community, who believe that the spread of the wine will diminish intemperance."

THE NILES PEAR, exhibited at the December meeting of our Horticultural Society, is a foreign variety with a native name, and was thought by many to be identical with the Easter Beurré, but comparison from the same place of growth, showed how distinct they are. The Niles was then nearly ripe. There was a fine display of Passe Colmar, which is to December what the Seckle is to the September month, scarcely to be excelled in its season. The Vicar of Winkfield looked "watery" beside the Duchesse D'Angouleme.

DWARFING PEARS.—R. H. Tubbs, Kingston, Pa., writes us: "I am trying to dwarf the pear on the Juneberry. Thus far it promises well, one tree having borne a fine crop the fourth year from the bud. Its advantages would be longevity and freedom from disease; it is an American forest tree."

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The stated meeting of this Society was held in Concert Hall, on Tuesday evening, October 16, 1855, the President in the chair. Premiums were awarded as follows, by the Committee on Plants and flowers:—

Collection of twelve Plants—for the best to John Pollock, gr. to James Dundas; for the second best to Thomas Robertson, gr. to B. A. Fahnestock. *Collection of six Plants*—for the best to the same. *Specimen Plant*—for the best to John Pollock, and for the second best to Thomas Robertson. *Basket of cut Flowers*—for the best to Mark Hill, gr. to M. W. Baldwin; for the second best to J. J. Habermehl, gr. to J. Lambert. *Bouquets*—for the best pair to J. J. Habermehl; for the second best to H. A. Dreer. *Special Premiums*—one of two dollars to Robert Kilvington for a pair of Bouquets and a pyramid of indigenous flowers; another of one dollar to A. L. Felten, for a fine display of Dahlias.

By the Committee on Fruits. *Grapes*—for the best collection to Mark Hill; for the second best to J. McLaughlin, gr. to Isaac B. Baxter. *Pears*—for the best collection to the same; for the second best to Mrs. C. Mackau. *Special Premiums*—two dollars to G. W. Karl for a Seedling Clingstone Peach of fine appearance and very fair taste; and one dollar to Peter Raabe for a very excellent Grape, called Clara, said to be a seedling, and which the Committee are of opinion is deserving of more than passing notice.

The Committee called the attention of the Society to a specimen of the Graslin Pear, a foreign variety, by Robert Buist, and for the first time shown, which they consider an acquisition, and rate as *best*.

By the Committee on Vegetables—*Display by a market gardener*: for the best, to A. L. Felten. *Display by a private gardener*: for the best, to Robert Dunlap, gr. to Christopher Fallon.

The Secretary stated that since the last meeting he had received a box containing clusters of the *Early Northern Muscadine Grape*, with a specimen of wine made of that grape, from D. J. Hawkins and P. Stewart, of New Lebanon, N. Y., with a request to submit them to the inspection of the Committee on Fruits, which he did accordingly; and the Chairman reports that, after a careful examination by the taste, &c. (the odor could not be mistaken), they were clearly of opinion that the plant is a seedling of the worthless Fox Grape of our woods, and not deserving a place in any catalogue as desirable for culture, and no more to be compared to our Isabella or Catawba than a Chicken Grape to the White Muscat of Alexandria, and consider it a duty to stamp with emphatic reprobation any attempt to introduce for cultivation an article so utterly destitute of value as the so-called Northern Muscadine.

The Chairman of the Committee on the 27th exhibition submitted a report, minutely describing the display as it was held at Penn Square, on the 11th, 12th, 13th, and 14th days of September.

The President made a few remarks in commendation of the zeal of the Committee in conducting the exhibition, and that the cordial thanks of the Society were due to them for their active exertions.

Eleven gentlemen were elected members.

OBJECTS EXHIBITED.—*Plants* by J. Pollock—collection of twelve: *Allamanda cathartica*, *Adamia versicolor*, *Veronica Andersonii*, *Beloperone oblongata*, *Begonia Laperousia*, *B. Prestoniensis*, *Cuphea platycentra*, *Impatiens latifolia*, *Jasminum grandiflorum*, *Petunia Hermonie*, *Salvia lilicina*, and *Torenia Asiatica*. *Specimen*—*Allamanda aubletia*.

By Thomas Robertson—collection of twelve: *Allamanda cathartica*, *Manettia glabra*, *Clerodendron squamatum*, *Pentas carnea*, *Begonia Xanthina*, *Torenia Asiatica*, *Veronica Andersonii*, *Geranium Punch*, *Abelia rupestris*, *Clerodendron multiplex*, *Erica mutabilis*, and *Convolvulus pentanthus*. Collection of six plants—*Stigmaphyllon ciliatum*, *Begonia umbellata*, *Angelonia gardenieriana*, *Cuphea platycentra*, *Pentas carnea*, and *Geranium Hendersonii*. Specimen—*Manettia cordifolia*.

Baskets and Bouquets.—By Mark Hill—a basket and two bouquets. By J. J. Habermehl—basket and a pair of bouquets. By Robert Kilvington—a cone bouquet of indigenous flowers, and a pair of bouquets. By H. A. Dreer—a pair of bouquets. By James Kent, gr. to J. F. Knorr—a pair of bouquets. *Cut dahlias*.—By Gerhard Schmitz—very fine seedlings; and by A. L. Felten, a large display.

Fruits.—By Mark Hill—*Grapes*: Black Hamburg, Black Prince, Black Frankenthal, Grizley Frontignac, White Frontignac, White Bual, Cochin China, and White Muscat of Alexandria. By John McLaughlin—*Grapes*: six bunches each of Seedling Frost, Schuylkill, Catawba, Fox, Black Prince, Chicken, Ohio, Isabella, Elsinboro', Keres, and Black Hamburg. *Pears*: four specimens each of St. Germain, Brown Beurré, White Doyenne, Napoleon, Broom Park, Duchesse d'Angouleme, Le Curé, Passe Colmar, and Kingsessing. By Mrs. C. Mackau—*Pears*: Chaumontel, Belle de Montigney, B. Gris, Baker, Bameiux, Ananas, Columbia, Libéral, Angleterre St. Germain, Lawrence, Fondante des Malines, Duchesse d'Angouleme, Andrews, Passe Colmar, St. Ghislain, Delisse de Van Mons, Bartlett, D. d'Hiver, Fulton, and Tresor Amour. By Charles Sutherland, gr. to John Anspach—three bunches of White Syrian Grapes. By Geo. W. Karl—a fine seedling Clingstone Peach. By John Chambers—a good seedling Peach. By Peter Raabe—a specimen of the "Clara" grape—a seedling. By L. Chamberlain—Isabella Grapes.

Vegetables.—By A. L. Felten—a large and fine display. By Robert Dunlap—a very good display. By M. Murphy, gr. to J. C. Vogdes—a small display. By B. Higgins, gr. to D. R. King—specimens of the "Loof" fruit, or Wash-rag Plant, from seed brought from Cairo by Dr. Dorr.

November 20, 1855.—The stated meeting was held this evening—Caleb Cope in the chair. **PREMIUMS**—awarded by the Committee on Plants and Flowers, viz: *Collection of twelve Plants*—for the best, to Thos. Robertson. *Speciment Plant*—for the best, to the same. *Table Design*—for the best, to Thos. Meghran, gr. to M. Bouvier. *Basket of Cut Flowers*—for the best, to Jerome Graff, gr. to Caleb Cope; for the second best, to J. J. Habermehl. *Bouquets*—for the best pair, to Jerome Graff; for the second best, to J. J. Habermehl. *Crysanthemums*, twelve plants—for the best dwarf varieties, to the same; for the best specimen of a large variety, to the same; for the best of a dwarf variety, to Barry Higgins. *Special Premiums*—one dollar to Alexander Parker, for a collection of Chrysanthemums; and three dollars to Jerome Graff, for a collection of Orchids.

By the Fruit Committee: *Pears*, collection of fifty specimens of five varieties—for the best, to Isaac B. Baxter. *Special Premiums*—four dollars to Mrs. C. Mackau, for a very fine collection of Pears; four dollars to Jerome Graff, for a fine collection of Pears and Grapes. As these did not comply with the regulations, they could not compete for the Schedule Premiums.

By the Committee on Vegetables: *Celery*—for the best six stalks, to James Jones, gr. at the Girard College; for the second best, to J. J. Habermehl. *Brussels Sprouts*—for the best six stalks, to A. L. Felten; for the second best, to Barry Higgins. For the best display of Vegetables by a market gardener, to A. L. Felten. *Special premiums*—two dollars to M. Hagerty, gr. to Joseph Harrison, for a small display of fine vegetables; one dollar to Wm. Johns, for four dishes of fine Tomatoes, very perfect; one dollar to A. L. Felten, for a supe-

rior display of cauliflowers. The Committee noticed two very superior heads of cauliflowers, shown by Maurice Finn, gr. at the Eastern Penitentiary; and called the attention of the Society to a beautiful display of heads of wheat, rye, oats, barley, and a few large potatoes grown in California, and exhibited by Robert Cornelius.

OBJECTS SHOWN.—*Plants* by Thos. Robertson—*Aphelandra cristata*, *Epiphyllum truncatum*, *Daphne indica*, *Amaryllis aulica*, *Geissomeria longiflora*, *Cuphea platycentra*, *Primula pleno-alba*, *Geranium Tom Thumb*, *G. unique*, *Pentas carnea*, *Torenia Asiatica*, and *Plumbago rosea*; specimen, *Linum trigynum*. By Jerome Graff—*Orchides*, *Zygopetalum Mackayii*, *Stanhopea* species, *Calanthe veratrifolia*, and *Maxillaria picta*. By J. J. Habermehl—twelve dwarf *Crysanthemums*, and specimens of the large and dwarf kinds. By Robert Baist—*Ardisia crenulata fructo-alba*, and a blue *Salvia* from Mexican seed—a new variety. By B. Higgins—specimen, dwarf *Chrysanthemum*. By Alexander Parker—a great variety of *Chrysanthemums*.

Designs, Baskets, and Bouquets.—By Jerome Graff—a basket bearing a cut the flower of *Victoria* in the centre, and a pair of bouquets. By J. J. Habermehl—a basket and a pair of bouquets. By Thos. Meghran—a design. By James Kent—three bouquets.

Fruit.—By Isaac B. Baxter—*Pears*: St. Germain, Le Curé, Passe Colmar, Broom Park, and Duchesse d'Angouleme. By Jerome Graff—*Grapes*: Muscat of Alexandria, Purple Damask, Syrian, &c.—*Pears*: Passe Colmar, Easter Beurré, Niles, La Fortunie, B. D'Aremberg, D. Blanc, B. Diel, and Winter Nelis. By Mrs. C. Mackau—*Pears*: B. Gris, Liberal, B. D'Aremberg, Bon Cretein, Angleterre Noisette, St. Germain d'Automne, Glout Morceau, Duchesse d'Angouleme, Andrews, Bartlett, D. d'Hiver, Epine Dumas, D. Blanc, Lawrence. By Alexander Parker—*Pears*: two kinds.

Vegetables.—By A. L. Felten—a large and varied display of excellent growth. By M. Haggerty—a small display. By Wm. Johns—Tomatoes, cut fresh from the vines grown in pots under glass. By Jerome Graff—Brussels Sprouts. By B. Higgins—Brussels Sprouts. By James Jones—fine Celery. By Robert Cornelius—seeds of wheat, rye, oats, and barley; also, large potatoes grown in California.

[NOTE.—The reports of the Pennsylvania Horticultural Society, always welcome, have heretofore repeated the name of the employer each time that the gardener's name was mentioned. A repetition, we are assured, no one requires. The excellent Secretary will see that we have diminished his report in this particular for the sake of space for other matters.—Ed.]

Calendar of Operations.

JANUARY.

It is proposed to offer to the readers of the *Horticulturist* a monthly calendar of operations, or hints of the work to be performed in the fruit, vegetable, and flower gardens, greenhouse, grapery, pleasure grounds, &c.

The subjects are both extensive and proliſe, requiring volumes instead of pages for their proper elucidation; calendars in general are, therefore, either too brief to be valuable, or too lengthy and minute for the limited space which can be spared in a monthly periodical. We shall attempt to steer a middle course, and direct our remarks rather to the principles of culture, and those fundamental laws which govern vegetable growth, than to the mere explanation of practical details; the latter, however, will, to a certain extent, be recognized. This course is, indeed, rendered imperative in a work that circulates in a country embracing

every variety of climate, from the frigid to the torrid zones. But Nature's laws are universally alike, her modes of action are the same in every climate, and the same laws are observed whether in the production of the tiny moss or the gigantic sequoia. It may further be necessary to state that I make no pretensions to instruct experienced cultivators, but write with a view to assist and increase that already numerous class of amateurs who find their greatest pleasure in rural pursuits, and in the contemplation of the "varied works" of Nature.

FRUIT-TREES.—Those that have been recently planted should be properly secured. Of the many essential points in culture, no one is paramount; it is only from a happy combination of the whole that we can expect constant success. A tree may be planted in the most congenial soil, and with all possible care, yet, if allowed to sway about with every breeze, this will counteract the best treatment. Mound the soil well up the stems of newly planted trees, to throw off wet and keep the roots in a healthy condition, and in a state of growth. Dig up the ground and leave it exposed to the frost; apart from the highly beneficial action on the soil, this is one of the most effectual means for the destruction of insects and their larvae. We have known plum-trees that were kept perfectly exempt from the attacks of the curculio by occasionally forking over the soil and exposing it to the winter's severity.

Pruning is an operation very little understood by the majority of cultivators; an annual visit to the orchard with an axe and saw, and the cutting out of a few limbs being considered the indispensable procedure. If your trees are old and overgrown with wood, thin them out judiciously; if very productive of fruit, but have made short and weak growths, prune them down severely; but young, strong-growing, fruitless trees do not touch while destitute of leaves.

VEGETABLE GARDEN.—One of the most important operations at this season, and one of great influence on the productive capabilities of the soil, is turning over the surface roughly, to expose it to the ameliorating and disintegrating action of the weather. While freezing, the contained water expands and separates the earthy particles, and a gradual crumbling and granulation takes place during the thawing process, and a friability is produced which is not attainable by any other means. By proper foresight, the labors of spring may also be lessened by this operation. For example, the ground set apart for early potatoes may be thrown up in ridges and thus left exposed all winter. When planting season arrives, the space between the ridges may be straightened with a hoe and the seed put in, covering it by levelling down the ridges; crops so treated will mature much earlier than by the usual method of sowing in the newly turned up cold soil, and can be put down from one to two weeks earlier in the season. Cauliflower, lettuce, and other plants in frames should be kept dry, especially in frosty weather, at all times protected from heavy rains; during snow storms they may remain covered up for several days, taking care to expose them gradually to sunshine afterwards.

GRAPEY.—The house should be well aired, never entirely closed, unless in rain, snow, or severe frosts. The soil or borders should be kept as dry as possible, both outside and in the house. The outside portion may be protected by a thick coating of leaves or littered manure. But they are most thoroughly protected by wooden or glazed sashes fitted closely to the lower ends of the roof-rafters of the house. If glazed sashes are used, many useful articles may be forwarded under their shelter. The best British Queen strawberries that we ever saw were produced in this manner, and were ripe three weeks before those in the open air. We have never seen this fruit worth looking at under out of door culture here; treated as above they are very superior. Other kinds, of course, are equally improved by this slight protection.

The vines will now be laid down in a horizontal position, and, where necessary, covered with straw. Ropes made of straw wound closely round the vines form the neatest method of protection. Raspberries will, of course, be under protection; laying down the vines and covering them over with soil is at once the simplest and best mode of bringing them through the winter; indeed, we have never seen them satisfactorily protected in any other way. Figs and tender grape-vines are also protected as above. Strawberries should be covered over slightly with manure, short hay, or leaves. This protection should not be confined to what is termed cold latitudes, as its advantages are equally observable whether the climate produces a cold of 50 degrees or 5.

GREENHOUSE.—The temperature may average from 40 degrees by night to 60° or 65° by day. The greatest source of disappointment proceeds from injudicious management of the atmosphere. Let it fluctuate similarly to the natural atmosphere; avoid keeping up a mid-day heat at midnight; always allow a diminution of from 15° to 20° by night over the heat of the day; do not open sashes and admit dry cold winds; air mostly by the top ventila-

tors, and keep the atmosphere charged at all times with sufficient moisture. Water always in the morning, and have a tank inside the house that the water may be of the same temperature. Never apply water until it is absolutely necessary, and see that it passes freely through the soil; the contrary will indicate deficient drainage.

Much depends upon the arrangement of the plants. There is always a *warm end* in all greenhouses, where the fire enters, which can be kept up a few degrees above the opposite end. Plants of a tender kind, or those in a growing state, should be placed there: *luculias*, *leschenaultias*, *epiphyllums*, *torenia*s, *kalosanthus*, &c., comprise some of the former; while *heliotropes*, *primulas*, *geraniums*, *roses*, &c., will require warmth to keep them growing and flowering. *Ericas*, *epacris*, *acacias*, *hoveas*, *polygalas*, and others such should be kept as cool as possible. *Camellias*, *azaleas*, and, indeed, all other plants that are in flower, will require more water than those in a state of rest.

The proper application of water should receive every attention; much depends upon it at this season more especially. *Pelargoniums*, *calceolarias*, and *cinnearias* should be shifted into larger pots, and kept on the front shelf near the glass, to prevent etiolation of the young stems, which injures their flowering properties. Young plants for the flower garden should be frequently topped (by pinching out the points of the shoots), to render them stocky and strong.

Tropæolums, a beautiful class of greenhouse climbers, require to be kept rather dry and near light. *Mignonette* in pots requires to be carefully attended to bring it to perfection; little water and plenty of light will keep it flowering. Keep under cover a supply of soil for potting; that produced from rotted turfs will answer all purposes, using sand, charcoal, or any similar material to maintain a constant porosity. There is no necessity for mixtures of peat and other nostrums, in the way of soil for cultivating plants in pots. The best plant growers are not so particular about the chemical constitution of the soil as its mechanical condition.

Fumigate twice a month with tobacco, to prevent the green fly from gaining a livelihood on the plants.

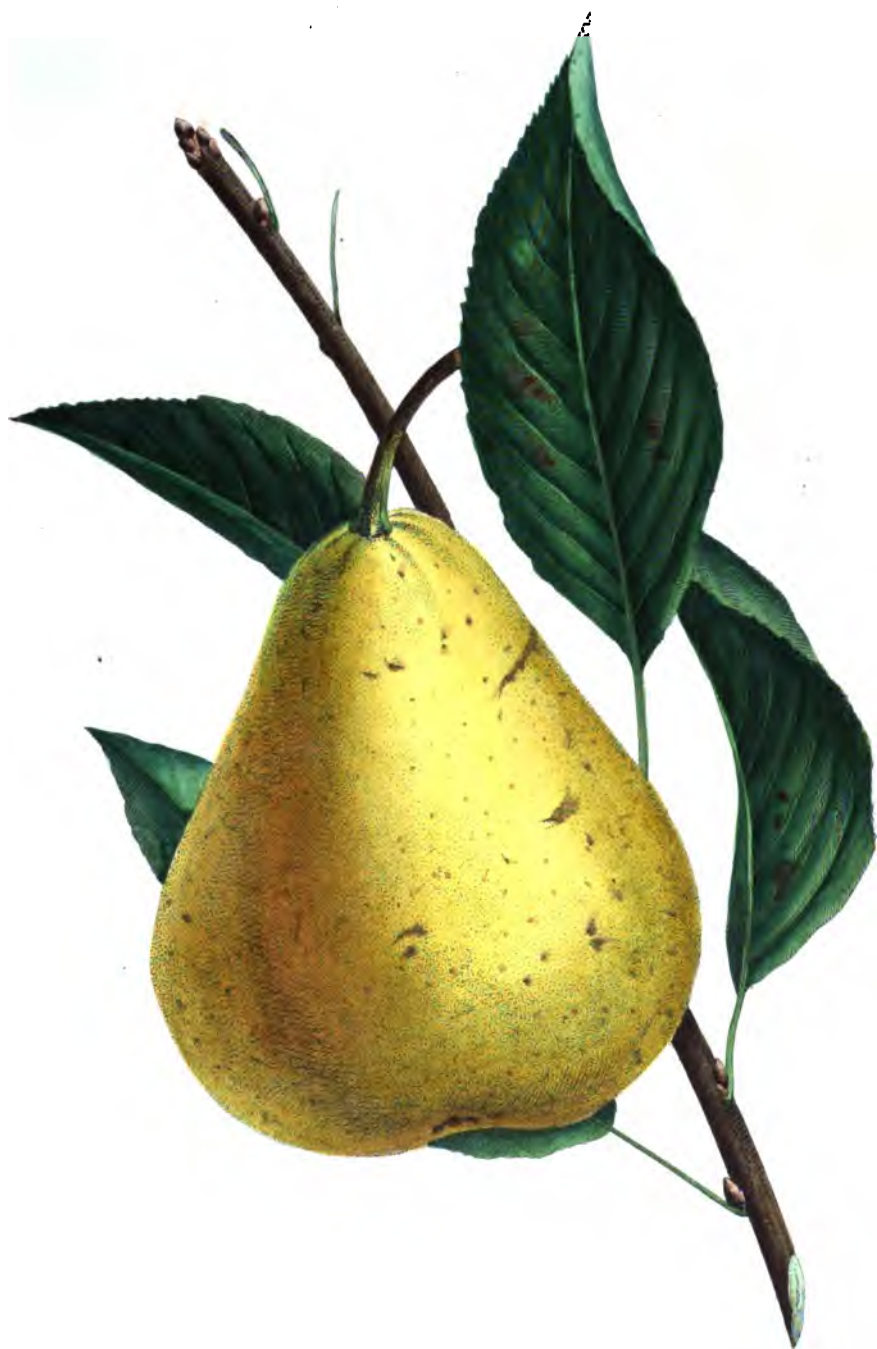
FLOWER GARDEN.—But little can be done here at present. Manure and composts may be applied, and the walks repaired if necessary. Geometrical gardens cut on the lawn should be carefully studied, with a view of arranging the plants to the best advantage, and ascertain the kinds and quantities required. Much taste and skill may be displayed in the combination and harmonious arrangement of various colored flowers in this description of garden.

PLEASURE GROUNDS AND SHRUBBERY.—Contemplated improvements should be fully matured and studied before commencing active practical operations. Most of our rural places evince this want. It may safely be asserted that no permanent improvement will ever give satisfaction unless the whole arrangement is previously determined upon, even to the most minute details. But how often is it thought about? Let our expensive and unexpressive *pleasure grounds* (by courtesy so called) answer. Study the features of the locality and its connection with surrounding scenery, and follow Nature's promptings, which are always visible to the tasteful eye.

"But learn to rein
Thy skill within the limit she allows;
Great Nature scorns control; she will not bear
One beauty foreign to the spot or soil
She gives thee to adorn; 'tis thine alone
To mend, not change her features. Dost her hand
Stretch forth a level lawn? ah, hope not thou
To lift the mountain there. Do mountains frown
Around? ah, wish not there the level lawn."

Let everything that can be done to facilitate spring operations be proceeded with; make roads and walks, and dig out and prepare the ground for trees. Where this cannot be done, mark out the direction of the former, and insert stakes into the intended positions of the latter, and write the name of the tree on the stake. This will be found a great assistance when the hurried season of planting arrives; and, above all things, prepare an ample heap of suitable compost to plant with, that your luxuriant anticipations may the sooner be realized.

WILLIAM SAUNDERS.



THE BACCHUS PEAR

[illegible]

The program
 is designed
 to provide
 a step-by-step
 guide to the
 process of
 providing
 a good
 service to
 the customer.

The next stage for the "Wounded" was the "Wounded" of many hands and feet. We were all there with

been left to increase the Union, the even the single

VOL. VI



Want of Progress in Rural Taste.



O the men or women brought up in cities, an apple is simply an apple; they have no other name for it, and scarcely appreciate, if they distinguish its good or bad qualities. To the same individuals one tree is much like another; shade and grass are of the same quality, provided they are shade and grass.

So it is in all matters; true education to the masses is denied. To those who are only familiar with gardens, and trees, and flowers, and grass, a star is a star; we have about as much relish, perhaps, for the pleasures of the astronomer, as the dweller of paved streets has for *our* favorite studies. These considerations should teach us humility; because we know a little more than our visitors, there should be no one who has lived long enough to learn *one* thing well, but would acknowledge his ignorance.

The first step in rural adornment, we heard a lady remark, was to plant a hop-vine or a gourd-seed; the progress to greater enjoyments is thus begun, but how many in our great country live their whole lives without the true enjoyment which Nature provides. We dined once with a wealthy individual, who was his own architect and designer, but who did not know the name, the species even, of the fine tree under whose shadow he had built his costly mansion. The planting of a hop-vine was to him an unknown problem. His gardener had all the enjoyment of the employer's wealth, in this line at least.

Schools should make a beginning in this matter; they do attempt to instruct the tyro in astronomy and botany, but where is the elementary book on horticulture, or has any one ever known half a dozen teachers that have passed an examination at the High School, and who were going to devote a life to teaching others, that could give the name of the most common plants and trees which surround every rambler in the woods?

The next step to planting a hop-vine is the acquisition of a knowledge of the fact that vines yield shade; a grape-vine follows, and delicious fruit rewards the planter. Would that all the desolate looking farm-houses we have seen in the course of many thousand miles of travel the past season, had even the luxury of a hop-vine! We could wish that, in many places, a single tree had been planted coevally with the erection of the house, or that some trees that did once exist had been left to increase. It is a sorrowful fact, that in a very large extent of this great Union, the very beginning of taste is not seen. The beautiful garden, or even the single ornamental object, is the exception and not the rule, if we take a

survey of the entire United States, and include the out-of-the-way roadsides, the mountain homes, and the whole interior. We have had no horticultural school-master; taste has been omitted in the schedule of the school. Look at the result, and regret that it is so to continue for generations to come.

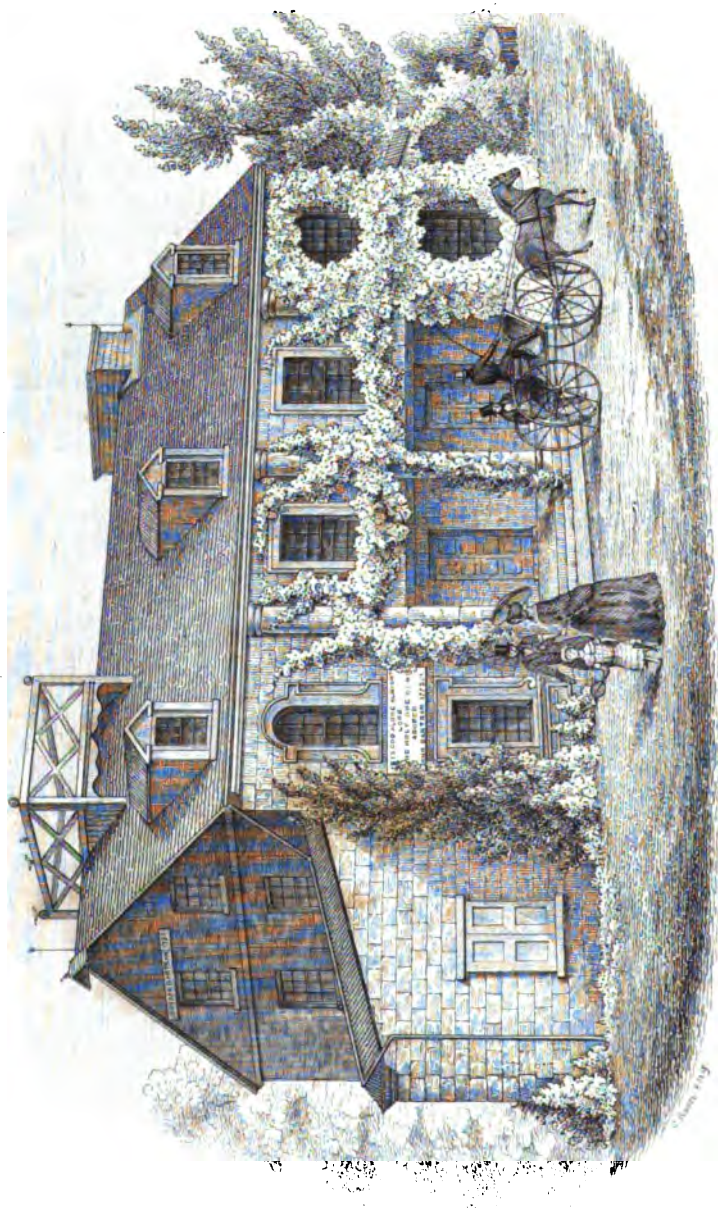
But, says the possessor of rural taste, a love of gardens and of planting is rapidly progressing. It is true they are increasing, but observation will show that they do not increase in the ratio of the population. A love of profit is increasing; money is the one thing that the masses worship. There formerly was respect for station, for age—is there any now? Will any one say this is taught any more than respect for a kind of learning which is not to produce a moneyed result?

How can we change this want, and bring up the mind of the country to a love of nature? We answer, by teaching a knowledge of the common things around us, and doing this in schools. "How to observe" is a thing rarely taught. "A farmer in repairing his fences will sometimes notice in splitting a decayed rail or stake, holes excavated therein and filled with young spiders, commonly of bright, beautiful colors, which lie still and quiet, with only a slight quivering of their limbs, and is puzzled to know why, when thus broken in upon, they do not awake from their lethargy and run away, little suspecting the manner and purpose of their being accumulated there. They have been stung by the parent bee or wasp just sufficiently to stupefy her victim without killing it, and will remain so till required for the food of the young not yet perhaps born. And a thousand similar interesting and curious phenomena are passing under the farmer's and gardener's eyes daily, as he pursues his labors—phenomena which, if

In nature's infinite book of secrecy
A little he can read,

aid in rendering his vocation beyond all comparison the most pleasant of any pursuit known to man."

Though the mission of our age may be to conquer the desert, we can see no reason why whole generations should pass away without those enjoyments which contribute to the softening of man's nature. The prairie annually springs up with beautiful flowers, and even fruit like the wild strawberry is said to redden the hoof of the traveller's horse as he takes his solitary journey. Why should we not incite Nature round our dwellings to perform the duties imposed by the Creator, and taste, amid the bitter cups too often offered to our lips, a little of the sweets, which are all but spontaneous, when we have learned to know their value and read them aright.



THE OLD BAMPHAM HOUSE.

READING PEAR.*

Size, rather large, $3\frac{1}{4}$ inches long by $2\frac{3}{8}$ broad; *form*, pyriform, tapering to the crown; *skin*, greenish-yellow with numerous dots; *stem*, $\frac{1}{8}$ of an inch long by $\frac{1}{16}$ thick, somewhat fleshy at its insertion; *cavity*, none; *calyx*, open, segments erect, set in a narrow, very superficial basin; *cone*, medium; *seed*, dark-brown, long, acuminate, $\frac{1}{2}$ inch long, $\frac{1}{4}$ broad, $\frac{1}{4}$ thick, many abortive; *flesh*, greenish-white, somewhat granular, juice abundant; *flavor*, sprightly, vinous; *quality*, "good;" *maturity*, January to March, even to May.

Wood, young shoots slender, yellowish-olive; old wood, gray-olive.

THE SEED BUSINESS OF THE WEST.

BY WILLIAM STOMS, CINCINNATI, OHIO.

THE great West has become a vast empire within itself, and among the varied items that go to make up its commerce, that of the "Seed Business" is deserving of notice. And yet, when we turn to the pages exhibiting our statistics of trade, how deficient is everything on this important head. For this omission, there *was* excuse, in the days of big wagons and four-horse teams, but in these times, when our receipts are mostly by railroads, canals, and rivers, the apology is fallacious and inexcusable.

The great West, from a position absolutely beneath the dignity of statistical research in the "Seed Business," say twenty years ago, has advanced in the commercial scale, to operations, amounting annually to over two millions of dollars!

Our rapid growth and prosperity oftentimes quite make us forget our former selves, and hence I propose briefly to notice the things and men that have gone before, and also the present, pertaining to the "Seed Business" of the West.

There are many readers of the *Horticulturist*, no doubt, both east and west, who still remember the name of Mr. *Parsons Gorham*, who kept a small grocery store on the corner of Lower Market and Sycamore Streets, Cincinnati, and whose death occurred some eighteen years since. Some will doubtless recollect in this city, when that gentleman was almost the only person of whom a little clover and timothy-seed could be purchased after looking the town over. From the year 1827 to that of 1831, Mr. Gorham may be considered the pioneer in the Grass-Seed business. The amount of stock in trade, that is, of grass-seeds, at any one time, during Mr. Gorham's engagement in business, was, perhaps, fifty bushels!

* See Frontispiece.

Since that day, I have known, in the different varieties of grass-seeds, twenty thousand bushels to be the stock of one single house, besides a heavy distribution among numerous commission houses all over the city. Such is the contrast in twenty-five years! In those days the Kentucky farmer would sow his bushel of clover-seed, costing five dollars. Now he often sows fifty bushels, costing two hundred and fifty dollars. For the three years preceding that of 1831, from one to two thousand dollars was about the annual investment in grass-seeds, in Cincinnati. For the last three years to 1855 inclusive, as near as can be estimated, the annual investments are over half a million of dollars! The contrast is striking, but true.

In January, 1831, a new era dawned upon the "seed business of the west." Mr. S. C. Parkhurst, a clerk in the Seed and Agricultural Establishment of John B. Russell, Boston, without the prestige of a name or fortune, with a pocket more full of letters than money, entered the "Queen City," and essayed at once to open a seed store, in all its various branches, on this same Lower Market Street, and upon the same block with Mr. Parsons Gorham! Mr. Parkhurst originally contemplated only a moderate business in garden-seeds, &c. But the field looked inviting, and, in true Yankee style, he commenced the issue of hand-bills, containing upon them the emblems of agriculture, such as the "Plough, the Shovel, and the Hoe." These were assiduously distributed among the market people. The whole country round about soon became acquainted with the fact, that there was a man in town, ready to buy and sell all the grass-seeds saved in this region. Besides, was also prepared to supply the same with garden-seeds and various kinds of implements. The New Haven courage of Mr. Gorham had to give way to the Boston enterprise of Mr. Parkhurst. In short, Mr. Gorham fell back dismayed—and for ten years Mr. Parkhurst had the entire field, and ran the race alone. In 1832, Mr. Parkhurst's sale of clover and timothy-seeds was about 600 bushels. The graduating scale to 1841 we omit; but this year (1841) his sales amounted to 6,000 bushels.

At this period also, he had become a man of wealth, but his health declining he sold out the establishment to a couple of young men named Wooley and Dalrymple. His mantle did not fall on the right shoulders, for their career was brief. They were clever men—but, from a want of knowledge in the business, their failure was inevitable. After eighteen months' possession, they relinquished again to Mr. Parkhurst.

In the interim, John F. Dair & Co., successors to Mr. Gorham, commenced dealing in grass-seeds quite extensively, in connection with the grocery business. The two houses were only half a block apart, and prosecuted operations on a grand scale. Competition soon sharpened up to the highest pitch. The strife was warm and exciting—but lasted little over a year, when Mr. Parkhurst concluded that profits had narrowed down rather close for him; in 1845, he made another sale to Ely & Campbell, and took leave of the "seed business," perhaps forever. His fortune had become ample, and it was not necessary that he should

attend to details any longer. Still, he is not idle, which I will presently show. When Mr. Parkhurst left Boston, his circumstances were circumscribed to very small means, but his employer, J. B. Russell, was rich. Mr. Parkhurst came out west, and Mr. Russell entered upon the publishing business, as Russell & Odiorne, in Boston, after making a handsome fortune in the seed business. Since then, in the capricious evolutions of fortune's wheel, Mr. Parkhurst has drawn the prizes, and Mr. Russell the blanks. One went down, the other up. The latter gentleman came out west in 1844, in fortune quite broken down—and has, for many years since, been an *attaché* of the Gazette office in this city, in which situation he has been subject to a good deal of intellectual drudgery. The former is a dealer in stocks "*on the Rialto*," a director in two or three railroads, and one or two banks. Both adhere to the advice of Ulysses to Achilles. For, with both these gentlemen—

"——— to have done, is to hang
Quite out of fashion, like a rusty mail,
In monumental mockery."

While it is breathing time of day, neither of them intends to die, or rust out.

Many persons of Mr. Russell's reverses of fortune would have put on the habiliments of heavy-laden care, or drowned their sorrows in dissipation. Not so with him. There always appeared to be a bountiful supply of sunshine about the heart that never failed to show itself in a genial glow, through his ever-beaming and benignant countenance. And of all the vices that oftentimes beset the path of both the fortunate and unfortunate, Mr. Russell has happily steered clear! But please excuse the digression, Mr. Editor, and you, Messieurs Parkhurst and Russell, excuse the too free use that I may have made of your names. I wished to trace the picture, for such is life!

The great bulk of receipts and sales of grass-seeds for Western consumption and Eastern export, are made at Cincinnati, Louisville, St. Louis, Chicago, Lafayette, &c. Of the Southern States, Kentucky, Tennessee, Virginia, and Maryland, are the principal consumers of clover-seed, for the fertilization of hard worked lands in hemp, tobacco, and cotton-growing districts. Of the Western States, Ohio, Indiana, Illinois, and Iowa are now the main producers of timothy-seed. Up to 1850, Cincinnati supplied nearly the entire West and Southwest with their grass-seeds, grown altogether in Ohio. Since that period, Illinois and Iowa have produced at least half the timothy-seed that has been consumed in this country. The productions of those States have annually increased in this article, and the time is not far distant when nearly all the timothy-seed saved in this region will be on the Western prairies. The surplus finds its way to New York or Eastern markets from, or through Chicago and Cincinnati. Of clover-seed it is quite different; nine-tenths of Western growth is saved in Ohio and Indiana; Missouri, Iowa, Wisconsin, and Illinois consuming more than they produce. As an item in this last-named commodity, Cincinnati has never ceased to be the great mart, and must continue to be for a long time to come.

A few years since, the sight of an agricultural implement here was a rarity—and the sales of such articles as straw-cutters, patent churns, horse-rakes, horse-powers and threshers, mowing and reaping-machines, &c., were a meagre nothing. Now, it is not an uncommon thing to see a broad acre of ground, on our wharf, or at some of our depots, covered with them. Manufactures have sprung up all around us, and the whole country teems with implements. In Cincinnati there are four houses devoted entirely to the sale of grass-seeds, garden-seeds, and agricultural implements.

In Louisville, about the first attempt to open up a regular seed business was in 1844, by our very enterprising friend, A. G. Munn. About \$20,000 worth of seeds and agricultural tools were as much as could be sold that year. For the last three years his average sales are \$100,000 per annum. There are now three large establishments for the sale of seeds and implements, and one factory, employing forty hands, and turning out a vast quantity of work every week. A safe estimate of the amounts sold annually, by all, would reach \$350,000, exclusive of engine work, wagons, &c., or machinery for plantations.

In St. Louis, the revolution has been more complete than elsewhere—but want of space will prevent our giving the fact any notice of a statistical nature. Well do I remember when a few barrels of seed and a few implements served for the year's supply. Now, St. Louis sells more implements than any city west of the Alleghany Mountains. And soon, Chicago, perhaps, may be pressing hard upon her heels in the great strife of emulation. It is hard to predict where we shall land, for everything, since the introduction of railroads and telegraphs, seems to be transitory and fleeting. A city or town rises and falls, as it were, almost in a day. Trade from a certain source, which may have been the main prop and support of quite a commercial metropolis, passes off like dew under the potent influence of improvements. For the past three years, Cincinnati has been made to stagger under the influence of these diversions, and whether, when all things are completed, she is to be straightened *up*, or straightened *out*, time alone can determine. The shifting scenes of trade, in consequence of railroad and other public improvements, is not so visible anywhere else as in the West. Trade is withdrawn from one place and attracted to another, with so much mysterious facility as not to be realized until the actual facts are staring us in the face. It is but a few years since, when the eye of prophecy saw the great destiny of New Orleans. As a commercial emporium, it was to have no rival on this continent. Already it had become the immediate outlet and inlet in *transitu* of one of the grandest trades in the world. Nobody thought, a few years since, of shipping to, or of receiving goods from New York, Philadelphia, Boston, Baltimore, &c., by any other route than by the way of New Orleans.

Now, how is the mighty fallen! Railroads have so changed the scene that New Orleans has become almost an obsolete phase in many commercial atmospheres!

CULTIVATION OF THE PEAR-TREE.

BY DR. J. M. WARD, NEWARK, N. J.

IF one of your late correspondents had good reason for thinking enough had been written on the subject of *planting* pears, it would become me to shrink from a compliance with the requests that are made to embody my observations on the subject, their treatment, the best varieties, and the adaptation of the quince or pear stocks to our varying climate. I claim nothing more for my observations than the experience of a ten years' residence on a fruit farm, with a pear orchard of a thousand trees, embracing one hundred varieties—objects of special interest to me.

In the science of pear culture in this country, the rubbish is just cleared away, and the foundations firmly laid, while the noble edifice to be erected on its walls is to be the work of the laborers now in the field of observation, and those who can bring contributions of experience, with one item of truth after another, till, in time, an edifice will be erected of such towering height and importance, as no other country than ours with its brilliant skies and clear atmosphere, can witness.

My observations will tend to contrast the comparative success of experiments with dwarf trees on the quince and those on their native stocks, and may be regarded by some as disparaging to the former. The glowing picture of Mr. Rivers' orchard of dwarf trees, drawn by the lamented Downing, was not without its influence in leading me to regard that as the mode of culture, which, while it marked the progress of the age in horticulture, was destined to supersede in a great measure, the growing of pears on their own stocks.

Viewing the subject through such a medium, it is no marvel! I embarked extensively in the growing of pears on the quince. With some varieties I have been eminently successful. The crop during the past season has not only been gratifying to my pride as an orchardist, but has proved eminently remunerative; indeed, the facts will warrant the remark, no crop grown upon the farm has paid so well, in view of the labor bestowed, as a crop of Duchesse D'Angouleme, on the quince. Both the largest of this variety, and of the Bartlett, have been upon the quince. At one time there was counted upon the mantle, in the fruit-room, twenty-five that weighed a pound and upwards, each—specimens, it is true, that had been selected from their fellows on account of their size.

The sight of a hundred trees, closely planted in rows, about twenty in a row—each tree resembling its fellow in size and form, and each sustaining as much of a crop as it could prudently be trusted with; the eye here and there lighting upon a specimen with its blushing cheek turned towards the sun, and the whole, when gathered, yielding over twenty bushels—was an argument in favor of dwarf trees, the force of which the most incredulous could not well withstand. *But*, turning from it to the Onondaga, and contrasting the thrifty, vigorous growth of that

excellent variety on its own stock, its boughs loaded with all the fruit it could comfortably bear, with not a few sickly starveling specimens on the quince, with only here and there a solitary pear, and a very different opinion might be formed of the success of the pear on the quince.

My trees on both pear and quince were planted at the same time, received equal care in planting, stand upon the same plat of ground, and occupy alternate rows. The space between the trees has enjoyed as equal culture as possible. As regards their annual pruning, though not as rigidly performed, especially in the earlier years as I now could wish, and, with my present views I would now give them, still the eye of the amateur will not detect any great departure from the most approved method, or if he recognizes early errors, will perceive they have been measurably remedied in later years. I am satisfied that *no one*, during the earlier years of his experience, ever prunes with a sufficiently rigid hand; this is a faculty acquired only by long years of experience. Well do I remember turning my back upon an experienced cultivator while he was giving me my first practical lessons; the conviction was overwhelming that there was a needless, profligate waste of those fondly watched towering shoots. Notwithstanding all the instructions that have been given, and the necessity of their being observed if we would have good fruit, I venture the remark that it is the last advice that is heeded by the inexperienced, who forget that the wood and fruit force are antagonistic principles.

Experience has taught me that my best crops have been obtained where the system of pruning was so close as to leave but three or four buds of the previous summer's growth. The past season, an entire row of dwarf trees showed a second crop of blossoms, when the fruit set was about the size of a walnut. Such a phenomenon evidently obtains when nature feels herself thwarted in having suffered the loss of a large proportion of the fruit-buds from the knife of the pruner; the crop that she has started and is carrying forward to maturity being inadequate to enable nature to expend upon it her accumulated fruit force. The same thing may be observed where an accident has befallen the tree in the loss of some of its main branches, or a violent storm has robbed it of a greater part of its crop of fruit.

As this occurs in my grounds to the prolific varieties only, and those on the quince, it suggests the thought whether the knife is not too vigorously used, and whether it might not be a better practice to thin the crop when half advanced, when we can pluck the illy-formed and stung fruit at a time so late as to forbid nature expending her energies at the expense of the already well-formed and half-grown fruit.

Your western readers will understand our difficulties when I contrast their fertile soil with my own. The plat of ground selected for my pear orchard is at the base of a mound known to be occupied in 1666, so that it is literally true that for nearly two hundred years the land has been yielding up its inorganic elements; and thus it is with most of the soil devoted to the pear on the whole Atlantic

slope. But though the labor demanded in this branch of industry is greater, the question is a pertinent one, Whether that labor does not have its reward in richer and more highly flavored fruit than the West can grow. Some facts that have come to my knowledge, though few, seem to me to look in that direction.

My farm was literally and emphatically a worn-out one, but having a rolling surface, with a soil of gravelly loam, the decomposed sandstone of New Jersey, and a like subsoil with such a proportion of shale as to give it the requisite porosity for producing rich fruit, I commenced deepening the soil by the use of the subsoil plough, and manuring with common barnyard manure. This accomplished, and one crop taken from the field, the holes were dug of sufficient depth and width, that, when properly filled, the tree would stand about as deep in the soil as it stood in the nursery row. No one thing have I been more anxious to secure than sufficient depth of hole, *filling it a foot or more with sods*, and spreading over these pulverized surface soil to give an even surface; spreading the roots on this, adjusting even the little rootlets, so that they will readily come in contact with the nutriment given them, always taking the precaution to have those rootlets covered lightly with fine pulverized loam, rather than the stimulating compost appropriate for the filling up.

And on the composition of this for our greedy soils depends very much of our future success. No composition has given me such satisfaction in its lasting influence on vegetation as one of muck pulverized by the frosts of winter, mixed in the spring with lime or ashes, bone-dust, and charcoal charged with urine or fresh poudrette. When all of these, or such of them as one can command, thoroughly mixed through the summer and fall with barnyard or stable-manure, are thoroughly commingled with equal quantities of good loam, you have a manure rich enough in inorganic elements, if not to merit a premium, to give you fruit that will universally be acknowledged to be deserving of it.

Properly filling the hole with this and the surface soil, the work is done, except keeping the ground free from weeds in the summer, and the soil between the trees occasionally stirred and loosened, as demanded in the cultivation of a potato crop. My favorite practice is to mulch with straw or refuse hay, believing that it serves to manure the soil independent of its decomposition, possibly by absorbing and retaining ammonia and other gases that play such an important part in the vegetative process.

The depth of hole which was diminished by the foot of sods to underlie the tree, will be *a life insurer* to the tree, during the severest drought. The mulch, however, will be a guarantee, if such be needed, that death from this cause will not overtake it.

(TO BE CONTINUED.)

[Dr. Ward is welcome to our pages. He has a right to be heard, having undertaken for pears (and other fruits) what Dr. Underhill has successfully carried out in grapes, the supply of a great want to the New Yorkers. He will open the

subject of the difference between the value of the dwarf and the standard pear-tree, which it is well to discuss, now that so many years have elapsed since the experiment was commenced. We shall be glad to receive the doctor's continuation.

With regard to manure for orchards of all kinds, it will probably be found that "street dirt" contains the elements necessary to success; where it can be procured without a long pull, it will be cheap.—ED.]

A DAY AT KEW GARDENS, LONDON.

No. II.

BY THE EDITOR.

WE must move on; fatigue it will not do yet to listen to; we shall probably never have such another opportunity. As yet we have scarcely begun to see and hear.

Sir William evidently enjoyed with a high zest any discoveries which led to the detection of imposture. Such is the *Revelenta* of the shops, advertised all over London, which is nothing but a flour or meal prepared from the seed of *lentils*, or beans, to which the fabricators give a strangely corrupted name; and in order to carry the deception further, the advertisements exhibit a tropical scene of lusty negroes cutting down palm-trees amid Hindoo temples, for the preparation of lentil-meal from a humble vetch! They use the seed of *Ervum lens*, and the good English women have been giving it as the most wholesome dish to their children, till it was found out and exposed.—Here is Shola, the very soft pithy wood of *Æschynomene aspera*, of which those Sincapore hats are made. Used for a variety of purposes, where softness and lightness are required; floats for fishing-nets, &c.—*Divi divi*; the pods are most powerful astringents and rich in tannin; 3,000 tons are annually imported; the plant is *Cæsalpina coriaria*.—The order *Rosaceæ*, Rose family, of which roses are the type, including a large proportion of our esculent fruits; you see the various products either in reality or wax models of great beauty. From the kernels of the West India cherry, *Cerasus occidentalis*, Noyeau is prepared.—There is Henna, leaves, powder, and fruit of *Lawsonia inermis*, used in the East for dyeing the finger nails.—Sir William smiles as he shows the piles of tobacco and bundles of cigars of all possible shapes and sizes, probably at the universal weakness of mankind; but he tells you that the English imports of all products of tobacco exceed 40,000,000 lbs. annually, and produce a revenue of twenty millions! of dollars.—Here is your American Poke-Weed, *Phytolacca decandra*, the root used in medicine, and the berries for staining wine, which is sent you of such good colors! from your own weed grown in

Europe for this purpose.—Here is Cassava bread; Tapioca; Castor oil; Croton oil, &c. &c., all going to show how much we are indebted to vegetables.—Nettles, worthless as they are proverbially considered, yield a useful fibre, and some are neither unwholesome nor unpleasant food.—Milk of the Cow-tree, used by the natives of Venezuela, and given to the children as we do cow's-milk.—Fruit and bark of the Upas tree, and concrete juice of the same; inhabiting the malarious regions of Java, this tree has a worse name than it deserves.—Jack; the gigantic fruit of *Artocarpus integrifolia*; the largest edible fruit that is brought to table; some have been known to weigh 80 lbs.; the odor is disagreeable, but the fruit good.—Those are shirts made out of the bark of two sorts of Tururi, one an *Artocarpea*, the other a Fig; from the Amazon.—All the products of the Willow, plaiting, baskets, &c. &c.—Refuse Tan, from oak bark; made into cakes for fuel in Brittany.—Galls of various kinds from oaks; among them the large Mecca or Bussorah galls, called also Apples of Sodom, Dead Sea Apples; used in the East for dyeing, and more esteemed than the common nutgalls which are occasioned by the puncture of the *Cynips gallæ tinctoriæ* on the *Quercus infectoria*. When on the trees, the Mecca galls formed by the *Cynips insana* on the same oak, are of a rich purple, and varnished over with a soft substance of the consistence of honey, shining with a most brilliant lustre in the sun, which makes them appear like a most delicious and tempting fruit. They are very astringent and scarcely bitter. The far-famed Mad-apples, *Mala insana*, or Apples of Sodom, *Poma Sodomitia* of Josephus and other writers; “the fruit which never comes to ripeness” of the Book of Wisdom,

“Which grew

Near to the bituminous lake where Sodom flamed,”

and which, though beautiful to the eye, yet crumbles at the touch to dust and bitter ashes; it was supposed by some to be the egg-plant of our gardens, by others to be a species of cotton tree, but by Lambert to be the galls here noticed.—You see there candles made from a tallow or oil from acorns in New Grenada (may they give *light* to Kinney and Walker).—Of the coniferæ we cannot enter into an enumeration; the magnificent collection of Pine-cones occupying a large table-cabinet are of great value to nurserymen and planters, who compare them with cones they receive from abroad, and thus ascertain their proper names. The specimens of the cones of *Auracarias* and *Dammars* of the southern hemisphere are particularly valuable. Nor can we enter upon the products of the order *Palmaeæ*, or Palm family; their several uses would require a volume to describe—

“The Indian nut alone

Is clothing, meat and trencher, drink and pan,

Boat, cable, sail and needle, all in one.”

They yield timber, fibre of every variety, oil, wax, starch, sugar, daily food, mild and intoxicating drink; it is rather difficult to say what they do not yield; the collection is wonderful, and if not complete, additions are constantly received.—

The Screw Pine family, many of whose remarkable plants are natives of muddy shores of tropical rivers, have aerial roots, which descend like buttresses, and prevent their being washed away by the currents. The leaves, as may be here seen, are manufactured into ropes, hats, &c.—Here is a basket made from *Typha elephantina*, which is probably the “bulrush” of Scripture, of which the basket was made for the infant Moses, and such are still in common use in Eastern countries.—This room contains the Cerealia and their products; let us pass it for fear of detention! only looking at some flour buried by Captain Beechy in 1824 for the use of Sir John Franklin, which when dug up in 1849, proved perfectly sound.—You see there the peats, condensed without pressure, and these having the character of coal, jet, &c., are capable of being turned into inkstands and door-handles, &c.—You are horticulturally inclined and therefore a *trimmer*; in that case is contained samples of wood cut through, showing the effects of injudicious pruning, and the various injuries and decays consequent thereon. A most important study, indeed. Don't look at the wasps' nests and such matters, we must get to the plants; and the Director led us to another and even greater treat, our English lady still brisk and determined to see all. We soon discovered that she was alive to all that was said, and understood the rapid information so freely imparted; we must say she was “a good specimen,” and above the average of English ladies for intelligence on these topics.

Before we proceed to the gardens and hothouses, it may be interesting to state the gradual increase of visitors since these gardens were daily thrown open to the use of the public. In 1841, the number admitted was 9,174; in 1845, 28,139; in 1850, 179,627, and in 1854, more than 400,000! The place is now the best of its kind in the world, and probably will so continue. The Crystal Palace at Sydenham may have drawn away some of its numerous visitors, but it must always remain, from its multiplicity of objects, the great school of Botany.

(TO BE CONTINUED.)

GARDEN WHEELBARROW.—THE WHIMSIE.

THIS barrow, although light and simple in its construction, is composed of eight different parts, which may be used as a whole or separately. We translate from the *Revue Horticole*.

These parts are: 1st, a tilting or self-unloading barrow (*à bascule*); 2d, a hand-barrow; 3d, a roller for settling the earth of platbanks and seedbeds; 4th, a plough for scraping walks; 5th, a rake; 6th, a watering-pot; 7th, a single ladder; 8th, a double ladder.

The garden barrow may be used for carting earth, sand, bundles of straw or

hay, fagots, etc.; it is intended for watering, settling, and raking walks, rolling the platbanks or seedbeds so as to level the earth; it can also serve in the gathering of fruits, the pruning of trees, and, lastly, in the building of pale-fence.

The roller which acts as the wheel of this barrow prevents its being so readily overturned as the ordinary one, and is much less fatiguing to the workman, inasmuch as it merely requires to be pushed or drawn, keeping itself in equilibrium. It possesses another advantage; namely, the roller makes no rents in the garden, but, on the contrary, settles and levels the walks and sod.

The barrow is arranged in such a manner that nine-tenths of the weight bears upon the roller, so that a loaded barrow can be easily managed by a child of twelve years of age. The barrow is readily unloaded, by simply tilting it.

By the removal of a single bolt, the upper portion, or body, is removed, and the handbarrow remains.

The plough, or scraper, serves as the foot of the handbarrow. This plough, of which the coulter has an oblique direction, is easily managed and admirably adapted to cutting roots; the rake which follows is of iron, and collects the large weeds, which can be thrown into the barrow.

The plough and rake can be readily removed; to effect this, it is only necessary to take out a bolt and two keys.

This part, as well as the body, being removed, there remains the handbarrow, which, when half opened, forms a double ladder, the separation of which is limited by a brass rod; if entirely opened, it presents a single ladder, solid and light, and of four or more mètres* in length.

The following description more clearly explains the details of this useful addition to the implements of the gardener. The figures are on a scale of 0.05 for 1 mètre:—

A. Roller which serves as the wheel of the barrow.

B. Axle of the roller

C. The tilting body.

D. Axle of this body.

E. A line indicating the position of this body when it is tilted in order to unload it.

FF. Frame of the barrow, forming a handbarrow when the body is removed, and ladders when the plough is taken off.

G. Bolt connecting the two parts of the machine.

HH. Iron points for holding the ladders firmly in the ground.

I. Handles of the barrow.

J. The levelling plough (Fig. 3).

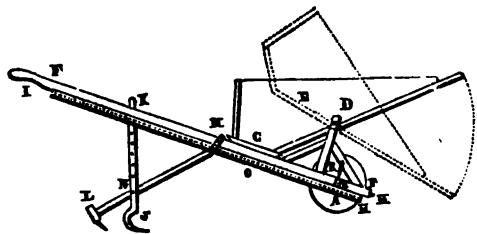


FIG. 1.—GENERAL ASPECT OF THE BARROW.

K. Mortises for fastening the plough by means of keys. These mortises are pierced with several holes so as to decrease or augment the length of the coulter of the plough.
 L. Rake (Fig. 3).

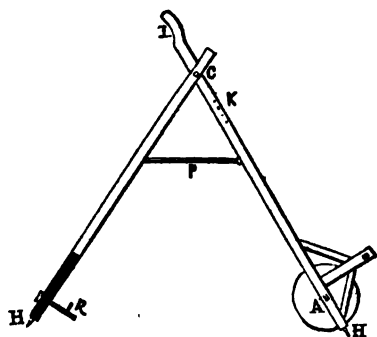


FIG. 2.—DOUBLE LADDER.

M. Bolt which fastens the rake.
 N. Screw-bolts which connect the plough with the rake.
 O. Watering-pot placed underneath the barrow, and which can be closed at pleasure by means of a valve.
 R. Rods moving in the frame, and serving, by means of a key which traverses them, to fasten together the two parts of the frame which constitute the double ladder. These rods will likewise keep the ladder at a proper distance from the wall, so as not to injure the trees.
 P. Rod which limits the separation of the double ladder. (For the other letters of this figure, see description of Fig. 1.)

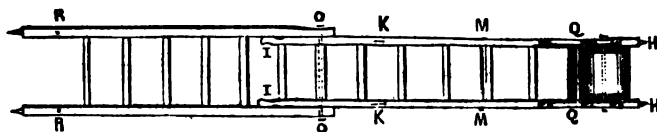
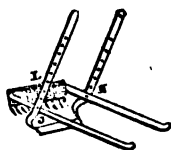


FIG. 3.—SINGLE LADDER.

FIG. 4.—SIDE VIEW OF
THE SCRAPER AND
RAKE.

II. The handles which serve as a resting point for the ladder when open.
 QQ. Iron plate which keeps the roller clear of dirt. When the single ladder is used the roller is beneath.
 RR. Ends of the rods which protect the trees when the ladder is applied against a wall. (For the other letters of this figure, see description of Fig. 1.)
 N J. Screw-bolts which fasten the scraper to the rake. (For the other letters of this figure, see Fig. 1.)

The above implement will be found of immense advantage to the owners of parks and large gardens. Its construction is not expensive, as it may readily be made for from \$15 to \$20. Its various component parts, if purchased separately, would cost from \$30 to \$40.

ROTTER.

GROWTH OF WESTERN TOWNS.—The village of La Crosse, Wis., the terminus of the La Crosse and Milwaukee Railroad, was laid out only four years ago, and is now said to contain two thousand houses. It supports a newspaper, and enjoys the frequent visits of some thirty different steamboats.

ROOTS.

THE root is the organ through which food is conveyed from the earth into the plant, and is the part which is soonest developed, increasing in length by the addition of new matter at its point, much as an icicle by the constant superposition of layer over layer, with this difference, that the icicle is augmented by the addition of matter from without, while the root lengthens by the perpetual creation of new matter from within. Being furnished with the power of perpetually adding new living matter to their points, they are thus enabled to pierce the solid earth in which they grow, shifting their mouths in search of fresh pasturage; hence the expression, "You may feed your trees as well as your chickens." A *Populus monilifera*, Canadian poplar, has been known to send a root thirty feet horizontally, including its dip beneath a wall, and then to have passed into an old deep well to the depth of eighteen feet. A deciduous cypress-root, eleven feet long, passed nearly to that length without division, in search of water. Willows exhibit even greater desire to travel in search of nourishment.

It is not merely in length that the root increases, or else all roots would be mere threads; they also augment in diameter, simultaneously with the stem. Neither is it by an embryo alone that roots are formed. A plant once in a state of growth, has the power of producing roots from various parts, especially from leaves and stems. A Spanish chestnut, between ninety and one hundred years old, was cut down in 1849. With the exception of its foliage, which always had a yellowish sickly tinge, there was scarcely anything else that indicated decay. Its trunk seemed perfectly sound, with healthy annual shoots. No sooner had the workmen commenced cutting, than it was discovered that for ten feet high, as much as two-thirds of the bark round the trunk was dead and reduced to a mere shell. On removing this thin covering, the sap-wood was found to have become a mass of decayed vegetable matter, through which a complete network of roots passed to the ground, as represented in the cut, and extended



Fig. 1.

themselves for a considerable distance from the main stem; some of these roots were about the size of an ordinary walking-stick. Cases of remarkable roots are familiar to observers.

An *Episcia bicolor* happened to have its leaves injured by an accident, which cut the midrib and a portion of leaf on both sides of it; after a certain time, the wound healed, the part next the base of the leaf remaining the same thickness as before the injury, while the edge of the outer portion gradually thickened, and developed a small bud close to the midrib, Fig. 2, from which a number of minute fibrous roots issued, and eventually a stem and leaves, as represented in the sketch. As the plant increased, the old leaf gradually became exhausted, and perished altogether as soon as the young leaves gained the ascendancy and deprived it of the scanty means that had previously supported it. Similar instances are familiar, not the least

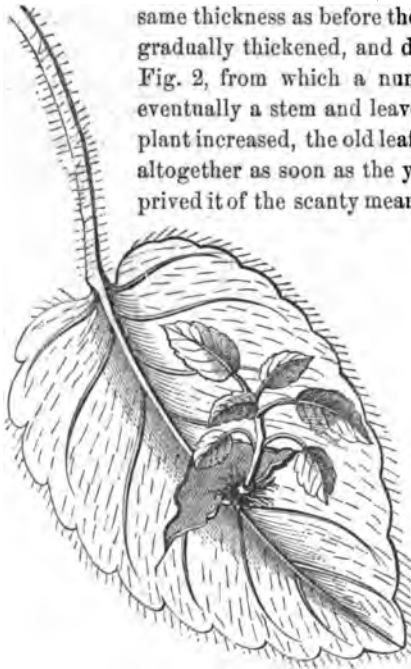


Fig. 2.

interesting of which is that of a broken celery-leaf, which sent out roots from the lowermost of its wounded edges.

In general, roots have no buds, and are, therefore, incapable of multiplying the plant to which they belong. But it constantly occurs, in some species, that they have the power of forming what are called adventitious buds; and, in such cases, they may be employed for purposes of propagation. There is no rule by which the power of a plant to generate such buds can be judged of; experiment is, therefore, necessary, in all cases to determine the point.

Exceptions are found in the Moutan peony, in the plum-tree, or the *Pyrus* (*Cydonia*) *japonica*, which may be increased with great facility by small bits of the roots being inserted in a shady border, and covered with a hand-glass; but in none of them does the power reside in the same degree as in the Japan *Anemone*. If a root be taken after flowering, it will be found to resemble brown cord, divided into a great number of ramifications, as represented in the cut. Upon its surface will be perceived a multitude of white conical projections, sometimes growing singly, sometimes in clusters, and occasionally producing scales upon their sides. A magnified view of these bodies is shown in Fig. 3, *a*. They are young buds, every one of which, if cut from the parent, will grow and form a young plant in a few weeks, every fragment of the plant being productive.

It is certain that vitality is stronger in the roots than in any other part of a plant. Live roots have been found in land many years after the trunks to which

they belonged had been destroyed. Mr. Knight gives some curious particulars in his *Physiological Papers*, pp. 83, 325.

It has been confidently asserted that roots are the organs by which plants rid themselves of the secreted matter which is either superfluous or deleterious to them. Correct experiments, however, have shown that such results are only obtained when roots are lacerated, and that they have no greater power of excreting matter than other parts of a plant. The theory of root-excretions was sustained by Liebig, but it is now abandoned.—*Pof. Lindley*.

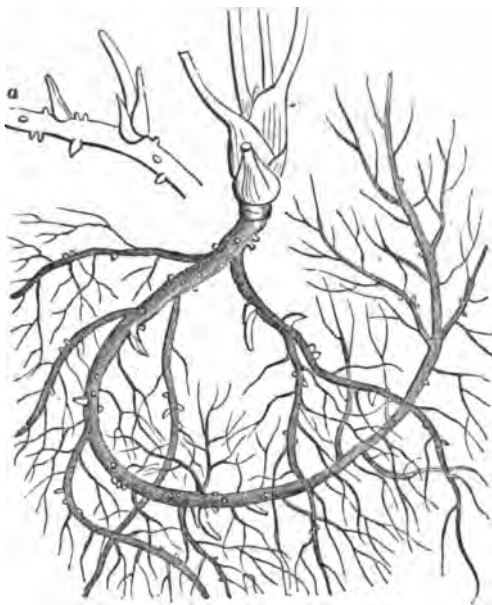


Fig. 3.

DOWNING'S FAMILIAR NOTES AND LETTERS.

No. II.

A PUBLICATION in two quarto volumes of our own, entitled *American Literary and Historical Curiosities*, had attracted Downing's attention, and he immediately commenced with considerable success the new pursuit of autograph collector; the next and the following letters contain playful allusions to this:—

HIGHLAND GARDEN, June 15, 1847.

MY DEAR FRIEND: I am greatly your debtor for the two fine volumes you have sent me. That on *Medical Botany** is very respectable. The *Antiquities* is quite a gem in its way, and has interested me a great deal—indeed, so much so that I have got about putting together an autograph collection of my own, as I find, on collecting the materials, that I have a very respectable stock to begin with.

Indeed, *I send you* in the true collector's style, some of my duplicates—embracing autograph letters of Jeremy Bentham, Major Cartwright, General Mina,

* Carson's *Medical Botany*, which was published in Philadelphia.—Ed.

an autograph of Lady Morgan's, &c. As I know you are a collector, and probably have not these good things, put them under your wing.

In return, send me two or three of the best duplicates you can spare. I imagine you can send me easily one of Mary Howitt, and, possibly, of John Bartram and Franklin. Washington is, I suppose, too scarce to be had. Am I not full of the zeal of collectorship?

I will notice the *Medical Botany* in my next number—in which, by the way, you will see an article entitled “Arboricultural Gossip,” by *J. Jay Smith*, that will, I am sure, amuse you—since I have made it from several of your late letters, taking that on Arboretums as the basis, and one or two facts that you told me verbally here last summer. It reads well, and to the point, and will raise the credit of my Journal and benefit the public. Long live the editors!

Yours in haste, but sincerely,

A. J. D.

P. S. By the way, what a little cramped autograph of my own is in your quarto!

To J. JAY SMITH, Esq.

The next letter which we shall copy is particularly characteristic, and contains the allusion to being one of his “parish” with which we opened our editorial career in the *Horticulturist* in July last.

HIGHLAND GARDEN, Aug. 5, 1847.

MY DEAR FRIEND: I have been absent from home for some days, and now have the pleasure of sending you a bound copy of my *Horticulturist*. The “Hints to Young Architects,” I told my publisher to send you some time ago, and presume it has reached you before this.

I was very much amused at your letter touching the autographs, which you first thought you would bestow on me, but, upon sober second thought, determined not. Never mind; I will bide my time. By and by, when you are looking over your collection you will, I am sure, see something that you will lay aside for me; upon which (without waiting for the second thought), pray send it off at once!

So you have undertaken a country place! Well, now you *are* one of my parish, and there is no escape for you; digging, and delving, and planting, and laying out, *ad infinitum*. Depend upon it, it is about the only rational sort of creation that poor humans can engage in, and provided you do it wisely (which few of us do, indeed), you cannot fail to increase your happiness by it. In the mean time, if any hints of my poor brain can help you, call them out I pray you.

Let me know in your next in what direction is your new home—whether near the Delaware, or the interior? I am curious about all.

The North River, which I chiefly confine my visits to this season, looks finely. There is beauty enough to satisfy a reasonable man.

Sincerely your friend,

A. J. DOWNING.

To J. JAY SMITH, Esq.

HIGHLAND GARDEN. (Without date.)

MY DEAR FRIEND: I have a very special favor to ask of you, and that in some haste.

You remember paying a visit with me to ———, Esq. He is the best friend I have in the world; well proved, and is one of the most perfect gentlemen, and generous high-minded men living, one, indeed, of Nature's noblemen, as I may most safely say.

He is just about sailing for Europe, with all his family, for a two years' tour, and with *Parkomania* especially in his mind. There is no man of all my acquaintance so thoroughly prepared to see and enjoy the finest English places. Rare trees are his great hobby.

Now, *apropos* of all this, I have remembered the interesting accounts of Windsor Park that you gave me in detail, and which you saw to so much advantage through your friend, Mr. Jesse, who, if I remember rightly, is the Queen's Ranger. If you feel at liberty to give Mr. ——— a letter recommending him to Mr. Jesse's kind attentions, I know it would gratify him beyond anything that I could possibly do, and it will, I assure you, lay *me* under lasting obligation. Mr. ——— has a very *loyal* spirit, and I think Mr. Jesse will have great satisfaction in playing the Cicerone to so great an enjoyer of all that he has to show.

Now, as I know the reluctance of some persons to give letters, I beg you to act frankly about this, and do not hesitate to decline at once, if you do not see fit to give it. But I am inclined to hope, from your familiar intercourse with Mr. Jesse, that the thing may be accomplished.

You see how frankly I come to you in the hour of need.

Sincerely yours,

A. J. DOWNING.

To J. JAY SMITH, Esq.

HIGHLAND GARDEN, Dec. 29, 1847.

MY DEAR FRIEND: A happy new year to you! I suppose you are full of plans and projects of country life—for the imagination, I find, is more fertile in winter than in summer, and we fancy a thousand little plans, half of which we are never able to carry out.

I had a letter from a gentleman at the South lately, in which he desired to know where he could get trees of that very fine species "so graphically described" by J. J. S., of Philadelphia, in the *Horticulturist* ("arboricultural gossip"), the *Virgilia lutea*? Perhaps some time hence you will give me some more notes and measurements of your remarkable specimens.

I don't know whether the style of house you are building admits of grained wood-work—like oak or black walnut—but if it does, I can tell you of an invention that pleases me, and that will, by its cheapness and effect recommend itself to Americans. This is a liquid wood stain, invented by a man in London, whose address I have. You wash over wood-work made of common pine, and then varnish it, and it has the effect of *fine old oak*; that is to say, all the real grain of

the wood is preserved and shown, and the same tone of color is given that the fine woods have naturally. I have seen a small church lately where the wood-work (including timber, ceiling, &c.) is all done in this way, and the effect is admirable. The cost of the liquid for this church (seats 200) was twenty shillings!

I am busy with "Downing's New Cottages and Villas," with interiors, fountains, &c. Have you seen a copy of the colored edition of my Fruits, just published, the plates done in Paris? It is, I think, very handsome. The price, \$15, prevents a poor author sending many gift copies! I received a letter from a gentleman in Germany near the Baltic last week, who has my work on Fruits—it has got as far as that—and he considers it so superior to all that he has seen that he wants to translate and publish it in German. It has been, on the whole, the most popular gardener's book ever written. I am now correcting for the eighth edition.

I want you to do me a favor. When I was in Philadelphia, I was so much pleased with a little Italian song which Mrs. — sang, that I bought a copy in Chestnut Street, and now I want another for a friend. The name is "Benedetta te sul Madre," and cost "two levies." When it is convenient, if you will buy it and send it me by mail, consider the money invested at 100 per cent., and oblige,

Very cordially, yours,

A. J. DOWNING.

To J. JAY SMITH, Esq.

THE STOCKWOOD GOLDEN HAMBRO' GRAPE.



SCARCELY a season passes in which we have not something new in the way of fruits; but it rarely happens that they possess anything more than novelty to recommend them. The mass of new fruits puts us in mind of that host of rhymesters, who, having only a dreamy vision of Parnassus, never reach it, yet, nevertheless, fancy themselves poets. But as it rarely happens that we have more than one good poet, or two at most, in a generation, so, also, if we obtain one or two really good, enduring new fruits in the same period, we may be thankful.

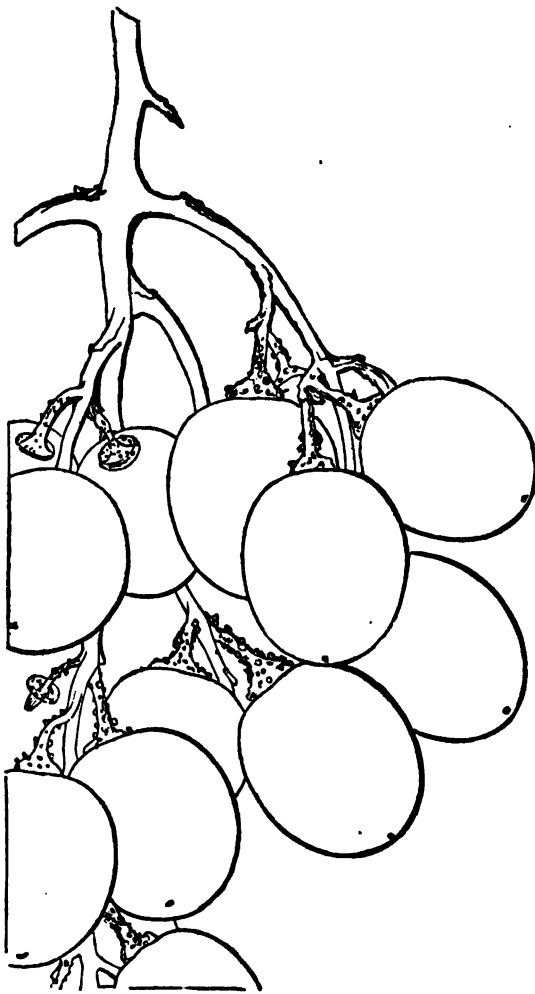
Within the last twenty years we have had "Victoria," and many other sorts of Hambro', all of which made a great noise in their day; but they were soon forgotten, and men betook themselves to the old Black Hambro' again. The variety which we have this week chosen for our subject is one which is not likely to be so soon forgotten, but which, there can be no doubt, will be as enduring as its parents, the old Black Hambro' and the White Sweet-water.

The STOCKWOOD GOLDEN HAMBRO' was raised from seed by Mr. Bushby, the excellent gardener to S. Crawley, Esq., near Luton. It was not obtained by

chance, as many of these things are, but was the result of a careful process of hybridization, which was pursued with the view of obtaining just such a result as has been arrived at.

It was raised from the *Black Hambro'* impregnated with the pollen of the *White Sweet-water*.

There was only one flower impregnated, and the operation was successful; a fine berry being produced, which contained five seeds, four of which vegetated. Two of the plants were thrown away; one was destroyed by accident; and the survivor is the variety which we are enabled now to introduce to our readers. The growth of the vine bears a stronger resemblance to the male parent than to the *Hambro'*, being short-jointed in the wood; but the foliage is more similar to that of the *Hambro'*, being large, five-lobed, and the veins and footstalks tinged with red. The bunches are large, loose, branching, and shouldered, varying from six to nine inches in length, and the footstalks are short and stout. The berries are large, and hang loosely on the bunches, an

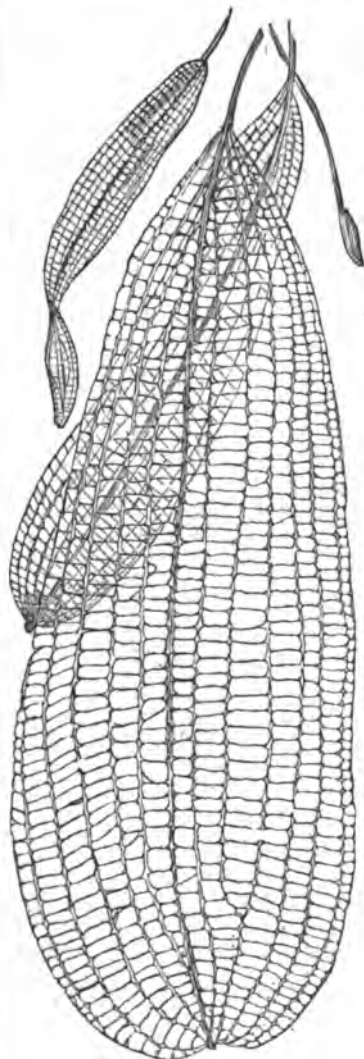


inch long, and seven-eighths of an inch wide, and of a uniform oval shape. The berry-stalks are rather long, stout, and considerably warted. Skin thin and tender, of a pale yellow color, but, when highly ripened, of a pale amber. Flesh delicate and melting, very juicy, and remarkably rich, sugary, and vinous, leaving on the palate a full and luscious flavor. Each berry contains from two to three seeds.

Our figure is taken from a bunch kindly forwarded to us by Mr. Busby, and

although our space would not admit of a full representation, still there is sufficient to show the character of this excellent new fruit, which is, without doubt, "the best of all the white Grapes except the Muscats."—*London Cottage Gardener*.

THE LATTICE PLANT.



THE new and curious aquatic plant from Madagascar, called the Lattice Plant (*Ouvirandra fenestralis*), must be placed among the most remarkable of our recent botanical acquisitions. Its existence had been for some time known to botanists through a few dried leaves sent from Madagascar by a traveller, who was unable to transmit living specimens of the curiosity he had discovered; and it was not until within the last few months that this desirable object could be attained, when several living plants were brought over to England from the above-mentioned country, by the Rev. Mr. Ellis, a missionary. This gentleman shortly transferred the whole stock to Messrs. Veitch, of the Exotic Nursery, King's-road, Chelsea, by whose kind permission the accompanying sketch was made from the specimens in their possession. The plants under their hands are thriving extremely well, and will be found worthy of a visit from the curious in these matters.

The interest of this plant lies in the extraordinary structure of the leaves, which, unlike those of any other known plant, are made up of the ribs and cross-veins only; the interstices, which in other leaves are filled up with cellular tissue, being here left almost entirely open, so as to give the leaf the appearance of a piece of curious net or lattice work, from which is derived its common name—the Lattice Plant.

That the beauty of this unique vegetable curiosity may be thoroughly appreciated, it

must be seen growing in its natural situation—submersed in water, with every motion of which the lace-like leaves take the most graceful, undulating curves. The plants at Chelsea Nursery are placed in broad glass pans, which allow the structure and movement of the leaves to be perfectly visible by the light transmitted through the sides. The temperature required is about 75 degrees.

As far as can be judged from so short an acquaintance with its habits, little difficulty is to be anticipated in the cultivation of this plant, which will probably be, ere long, as extensively distributed among the collections of this country as, from its great interest and beauty, it fully deserves to be.—*Illustrated News.*

THE RESIDENCE OF JOHN BARTRAM;*

NOW IN THE CITY OF PHILADELPHIA.

THE house, of which a picture is presented in the present number, may be said to be the cradle of American botany; from the proprietor emanated the plants and seeds which supplied the means and fostered the taste of what now constitutes half of the older ornamental planting of England. It was finished in the year 1770, and is still preserved with pious care by Colonel Eastwick, its present liberal proprietor, and forms the most interesting shrine for a pilgrimage within our borders.

Bartram was, perhaps, the first Anglo-American who established a Botanic Garden for native plants as well as exotics, and who travelled for the discovery and acquisition of novelties. At the then distance of about three miles from the city, on the Schuylkill River, he built with his own hands, and laid out a garden with a fine exposure, of about five acres, subsequently much increased, and from hence communicated, to the curious in Europe and elsewhere, his discoveries for the benefit of science, commerce, and the useful arts. He travelled several thousand miles in Florida and Carolina, bringing seeds and even plants on these laborious journeys, being fortunately a good botanist for that day—Linnæus said the best natural botanist known. He explored various northern points on the same errands for pay that could have been the least part of his reward.

He was a man of modest and gentle manners, frank, cheerful, and of great good nature; a lover of justice, truth, and charity; he was never known to have been at enmity with any man. His religious creed may be collected from the inscription by his own hand, in very conspicuous characters upon a stone which is shown in the wall, as follows:—

“’Tis God alone, Almighty Lord,
The Holy One, by me adored.
John Bartram, 1770.”

* See Frontispiece.

This may show the simplicity and sincerity of his heart, which never harbored nor gave countenance to dissimulation.

The simplicity of his style of life is well portrayed by one of his visitors, a French gentleman named Hector St. John, who published an account of his visit; he stayed with him a few days, and says: "We entered into a large hall where there was a long table full of victuals; at the lowest part sat his negroes; his hired men were next, then the family and myself, and at the head, the venerable father and his wife presided. Each reclined his head and said his prayers, divested of the tedious cant of some, and of the ostentatious style of others." Astonished by his knowledge, the visitor said: "Pray, Mr. Bartram, when did you imbibe the first wish to cultivate the science of botany? Were you regularly bred to it?" "I have never received any other education than barely reading and writing," was his reply. The beauty of plants early attracted him, and he studied Latin for three months, enough to understand Linnæus, and acquired himself a general knowledge of every plant and tree to be found on our continent.

Peter Collinson, one of the most constant correspondents of Linnæus, highly distinguished as a naturalist in London, soon found out our natural botanist, and their correspondence, rescued some years back from smoke and dust in an old loft of the mansion, by Dr. W. Darlington, forms one of the most entertaining and instructive volumes; Peter is constantly urging Bartram for seeds and plants and tortoises; in short, for everything new; their intercourse is sometimes highly amusing and quaint. Some dried plants being received in London, Collinson says: "I shall, at my first leisure, send thee their true botanical names, and shall send thee more paper; but one quire a year will be sufficient." The instructions sometimes run thus: "If thee observes any curious insects, beetles, butterflies, &c., they are easily preserved, being pinned through the body to the inside of the box. When thee goes abroad, put a little box in thy pocket, and as thee meets with them put them in, and then stick them in another box when thee comes home. I want a *terrapin* or two. Put them in a box with earth, and they will come safe. They will live a long while without food." Again: "In the course of thy travels, or in digging the earth, or in thy quarries, possibly some sort of figured stones may be found, mixed with earth, or stone and chalk. What use the learned make of them, is, they are evidences of the Deluge!"

The amount of patronage to Bartram, never large, is gathered from the correspondence: "I shall divide the seeds in proportion to my three contributors; Lord Petre is ten guineas; the Duke of Richmond five, and Philip Miller five. Send more black walnuts, long walnuts, and both sorts of hickory, acorns of all sorts, sweet gum, dogwood, red cedar-berries, allspice, sassafras. * * * Virginians are a very gentle, well-dressed people, and look, perhaps, more at a man's outside than his inside. For these and other reasons, pray go very clean, neat, and handsomely dressed to Virginia. Never mind thy clothes: I will send more another year." * * * "I have heard of thy house, and thy great art and industry in building it; it makes me long to see it and the builder." * * *

"Pray, look out sharp next year, and be beforehand with that saucy raccoon, that I may see that pretty nest built in the bush; and send the wasp, and a better specimen of the clay-wasp; for the last wanted its head."

John to Peter sayeth: "I take thy advice about books very kindly, although I love reading such dearly; and I believe, if Solomon had loved women less, and books more, he would have been a wiser and happier man than he was." * * * "I sent Gordon a fine parcel of hollyberries, the getting of which had like to have broke my bones. I was on the top of the tree, when the top that I had hold of, and the branch I stood on, broke, and I fell to the ground. My little son was not able to help me up; my pain was grievous; afterwards very sick; then in a wet sweat, in a dark thicket, no house near, and a very cold, sharp wind, and above twenty miles to ride home."

A sensitive plant sent Collinson amuses all who saw it; he says: "Whilst the Frenchman was ready to burst with laughing, I am ready to burst with desire for root, seed, or specimen of the waggish *Tipitiwitchet* sensitive. If I have not a specimen in thy next letter, never write me more. I wish it was in my power to mortify thee as much. Pray look where grows nearest, some Azaleas, Kalmias, and Rhododendrons." * * * Again: "O, Botany! delightfulest of all sciences. There is no end to thy gratifications. I have sent Linnæus a specimen of *Tipitiwitchet* sensitive; only to him would I spare such a jewel; he will be in raptures." * * * Lady Petre sent over to Bartram the seed of a pear, which was planted, and in 1763 it produced fine fruit; Bartram says: "I think a better is not in the world." The tree still exists near the old house, and annually its fruit is one of the pleasant things to call up old reminiscences at our Horticultural exhibitions. The same year he says to Collinson: "The variety of plants and flowers in our southwestern continent, is beyond expression. Is it not, dear Peter, the very palace garden of old Madam Flora? Oh! if I could but spend six months on the Ohio, Mississippi, and Florida in health, I believe I could find more curiosities than the English, French, and Spaniards have done in six score years. But the Indians, instigated by the French, will not let us look at so much as a plant or tree in this great British empire." The grafting of the pear on the quince had already attracted the attention of the knowing ones. In 1763, Peter writes: "What I am persuaded will prevent its dropping its fruit, if some quinces were planted in the lower part of thy garden, near the spring, and graft them with the pear—it meliorates the fruit. By long experience, all our pears are grafted on quince stocks, and succeed better than on pear stocks with us." * * * "I am no stranger to the native bread of Carolina and Virginia. It is a *Tuber Terræ*, or earth fungus. I have it sent me, near as big as my head. In time of want it is of great importance to the Indians. They call it *Tuckahoe*." * * * "The *Stuartia* flowered for the first time at Kew, which is the paradise of our world, where all plants are found, that money or interest can procure. When I am there, I am transported with the novelty and variety, and don't know which to admire first or most."

These few specimens, of a most interesting and curious correspondence, taken almost at random, will serve to exhibit the character of the book, and to afford the visitor of the gardens reminiscences of its occupant, and of his occupations. Young men must remember that Bartram was *self-educated*, and that the present times afford a thousand facilities for acquiring knowledge which were wanting to Bartram; by his knowledge he was introduced to the friendship of the greatest minds of his day; Logan, Franklin, Jefferson, Michaux, Dillenius, Gronovius, Sir Hans Sloane, Solander, Philip Miller, Kalm, Fothergill, Catesby, &c. &c., all sought his acquaintance or correspondence, and all sought to benefit him. The whole story is to us the most interesting colonial reminiscence extant, and we again and again congratulate the gardening world that Dr. Darlington was intrusted to complete a task that will for generations afford pleasure to thousands.

EFFECTS OF MOONLIGHT ON VEGETATION.

PROFESSOR LINDLEY, in his new edition of *The Theory and Practice of Horticulture*, a work of the greatest merit, now greatly enlarged and assuming the size of a bulky octavo, makes the following remarks on the effects of moonlight upon vegetation :—

“As far as is yet known, solar light alone has the power of producing any practical effect upon vegetation. That of the moon has, however, been shown to be not without influence. That the moon has a great mechanical effect upon our globe is undisputed. Of this, we need not say that the perpetually alternate ebbing and flowing of the tide affords the most evident proof. But, whilst the effects of the moon are admitted to be extremely powerful in this respect, the influence of her light, except as regards illumination, has been often considered by scientific men as inappreciable; and the proverbs to the contrary, current among the unlearned, have been accordingly estimated as popular errors. It has, however, been at last demonstrated that the moon's rays are very far from powerless. We learn from a note by M. Zantedeschi (*Comptes Rendus*, October, 1852), that these rays do affect vegetation. This philosopher states that the influence, physical, chemical, and physiological, of the moon's light, which has hitherto been the object of so much research and speculation amongst scientific and agricultural writers, has been recently investigated by him in consequence of his having had occasion to give a historical summary of the works on the subject. In the course of his inquiries he found it necessary to clear many doubtful points, in doing which his attention was forcibly arrested by the movements exercised in mere moonlight, under certain circumstances, by the organs of plants; and this led him to make the whole subject a serious and profound study. His observations were commenced in 1847, in the Botanic Garden at Venice; they were continued

in 1848 in the Botanic Garden at Florence, and at Padua in 1850, 1851, and 1852. In the whole series of his experiments, M. Zantedeschi always remarked certain motions in plants having a delicate organization as soon as they were brought under the influence of the lunar rays. In those experiments the rays were always diffused, being neither concentrated by lens nor mirror. Such movements could not be obtained by the action of heat, in whatever way thermal influences were applied. It was in vain to elevate or depress the temperature: in the absence of moonlight the phenomena in question could not be elicited. The plants on which M. Zantedeschi principally experimented were *Mimosa ciliata*, *Mimosa pudica*, and *Desmodium gyrans*. He always took great care to determine exactly the position of the leafstalks and leaflets of the plants after they had been exposed to the open air, and before they were directly illuminated by the lunar rays. He thus avoided any causes of error which might have arisen from the imperceptible motion of the air, or from a slight change of temperature; and he satisfied himself fully that the effects observed did result entirely from the action of the rays of light from the moon. Without entering into minute details, it is sufficient to say that the results were ascertained when the temperature of the air was 70° Fahr.; and when Saussure's hygrometer indicated a medium state of humidity. Under such conditions, the leafstalks of *Mimosa ciliata* were raised half a centimetre, or about four-tenths of an inch; those of the *Mimosa pudica* were raised one inch and two-tenths; whilst the leaflets of *Desmodium gyrans* exhibited distinct vibrations. It was thus demonstrated that moonlight has the power, *per se*, of awakening the Sensitive Plant, and consequently that it possesses an influence of some kind on vegetation. It is true that the influence was very feeble, compared with that of the sun; but the action, such as it is, is left beyond further question. This being so, the question remains; what is the practical value of the fact? It will immediately occur to the reader that possibly the screens which are drawn down over hothouses at night, to prevent loss of heat by radiation, may produce some unappreciated injury by cutting off the rays of the moon, which Nature intended to fall upon plants as much as the rays of the sun.

"Even artificial light is not wholly powerless. De Candolle succeeded in making Crocuses expand by lamp-light, and Dr. Winn, of Truro, has suggested that the oxyhydrogen lamp may be made subservient to horticulture in the long dark days of winter. It does not, however, appear that this hypothesis rests upon any experimental basis."

WHEN AND HOW TO PLANT TREES.

BY WILLIAM SAUNDERS, GERMANTOWN.

(CONCLUDED FROM PAGE 555 OF LAST VOLUME.)

THE importance of air to the roots of plants, and the necessity for placing them under its influence, has originated the oft-repeated advice, "Never set a plant deeper than it was before removal." The maxim is worth repetition. The collar, or neck of a plant, that is, the point from whence the stem and roots proceed in opposite directions, should be kept on a level with the surface. The natural growth of the roots of different trees will indicate the treatment they should receive. The pine and fir tribes seldom strike deep roots; they should be carefully spread out and slightly covered. Those that form strong perpendicular roots, as oak, hickory, pear, &c., should be planted accordingly, without bending or spreading any of the roots.

The most difficult to transplant are those which form fewest fibry, or small roots; every care should, therefore, be taken with such; all jagged and bruised ends cut smoothly across, to hasten the formation of young fibres. The roots are similar to the branches—pruning increases the quantity of shoots. Hence the more frequently a tree is removed, the less risk attends the operation.

In planting, care should be taken to imbed every root and fibre with soil; avoid the injurious custom of swaying the plant about, or shaking it up and down, with a view to settle the soil among the fibres. A portion of finely divided soil should be thrown over the roots and carefully introduced by hand into all the crevices formed by the roots. The plant will now be firm, and, unless large and heavy-topped, will not require staking, which, unless closely watched, injures the bark, and not unfrequently induces disease.

It is seldom necessary, at least with deciduous trees, to apply water at the time of planting. There is much harm done to recently planted trees by the application of what are termed "copious waterings." The soil, at planting seasons, is generally moist enough for the preservation and growth of the roots, and anything more is injurious rather than beneficial. Evergreens require different management in this respect; they have an extensive leaf-surface to supply with moisture; and if the soil has been shaken away from the roots at removal, or the season be dry, they should receive a thorough watering.

It is an old practice, and a very safe one, especially with large-sized trees, to pour water into the holes until the soil is rendered to a mortar-like consistency; the water carries the soil into every crevice, and imbeds every root. When properly managed in this way, a dry *spell*, during the latter end of July, will be found a good time to remove large-sized evergreens, provided the roots are not exposed for any length of time during the operation. Before being finally filled, the water should be allowed to settle, and always fill the holes with reference to a sinkage,

greater or less, of course, according to the depth of fresh soil; it is better that the tree should stand slightly elevated, rather than appear lower than the surrounding surface.

The summer treatment of newly-planted trees requires notice. It is well known that after a continuation of dry weather, all crops, and trees of large size, are checked in growth. When such results are visible upon well-rooted trees, it is evident that recently planted ones must suffer a still greater check. To overcome this difficulty, we must first get a supply of moisture in the soil, and then keep it there. Preparing deep holes, and breaking up the subsoil, effect the former, and stirring the surface, or mulching, the latter. It has been well proved that stirring the soil, so as to insure a loose surface, is highly beneficial to all growing crops. Air is admitted to act more perfectly upon the substances from which plants derive their nourishment; and, in dry weather, the escape of moisture is prevented; the loose soil acts as a mulching. Where the surface is compact, the sun's rays dry the ground to a greater depth than they do where it is loose. When the particles of the soil are in close contact, the uppermost, parched by the sun, extract humidity from those immediately under them; and these again from others still lower. On the contrary, when the surface is loose and well pulverized, it may lose its moisture rapidly and become dry; yet, from imperfect cohesion with the inferior portion, the latter cannot readily communicate its moisture. The loose surface soil having its pores filled with air, becomes an interposing medium which protects the under stratum from the drying effects of the sun's rays.

It is not only in dry weather that a compact surface is injurious. All the rain which falls during summer is fully required for the growth of vegetation, and, perhaps, would be found amply sufficient, provided the ground was properly trenched and drained. But when the surface is compact, and *baked* into a hard crust, the rains escape without penetrating to any useful depth into the soil. A loose surface is, therefore, one of the most efficient preventives of evaporation, and the simplest and cheapest kind of mulching that can be used.

AN EXPERIMENT WITH THE OSAGE ORANGE.

BY J. E. ALEXANDER, WASHINGTON, OHIO.

THE hedge value of the Osage Orange must be ascertained from actual experiments. Believing that a collection and comparison of facts already discovered would go far to settle the question, I will venture to add a modicum from my own experience to what has been said in your practical and useful journal. One hundred and fifty yards of hedge were planted in double rows with the plants one

foot apart. These were cut down during the first three years, respectively, to within six, eighteen, and thirty-six inches of the ground. When four years old, the hedge was seven feet high, beautiful and impassable, except for small pigs, &c. It was now manifest that, even if I had cut down more severely, it would not have been sufficiently close at the bottom; because the cutting produced shoots *too few and too upright* to close the fence. A heavy trimming made a few rampant upright shoots. This, in rich soil, is commonly the great difficulty. The few horizontal branches are deprived of vigor and vitality by the rapid growth of these *leaders*.

Instead of despairing of success, armed with stout gloves and a fine-toothed saw, I cut one hundred yards down to stumps only four inches high. When the first crop of shoots had started and grown three inches, I commenced "the pinching process," by nipping their tender tips with the thumb and fingers. This stayed their progress until they could branch again, and it had a twofold effect. First, it formed a second tier of branches just where they were needed, and where the old method could have formed them only after another season, by cutting away almost a whole year's growth. Second, it threw back the sap, which would have pushed up the rampant leaders, into the dormant buds on the stumps still nearer the ground than those which first started and were nipped. These new shoots, in coming up, had to spread somewhat horizontally. When they had grown about the length at which the first ones were stopped, they too were nipped. By this time (about two weeks from the first pinching), those shoots which were first stopped were breaking thickly and beautifully into side branches, the leaders of which were also pinched when they had grown about four inches, stopping them until, in two weeks, they would branch and form the third tier, which the old method would have got by cutting down after another year.

Thus, before the end of the season, notwithstanding these checks, the hedge was again *four feet* high, presenting a wall of glossy foliage, and so thickly woven throughout with twigs and thorns as to be impassable by the smallest domestic animals. It is now two years old from the stumps, is seven feet high, and entirely satisfactory.

It should be remarked that the pinching need not be continued longer than until you have thickened your hedge to the height of about three feet. After securing this prime object, it will require less attention, and you can trim and shape it with knife and shears as you please.

Any one can, in this way, *compel* the Osage orange hedge to grow as thick at the bottom as he pleases.

The advantages are—that you can begin as low as you please, make as many shoots as you please, locate them where you please, and *secure the results of three years in one season*—I mean in getting the hedge thickly closed at the bottom.

Besides, the whole vigor of the roots and the whole growth of the plants (except the trifling amount pinched off) are at once made subservient to perfecting the hedge. I may add that, in addition to saving and directing the whole

growth aright, the pinching is much less injurious than the heavy lopping of shoots two or three feet long, annually, for three years.

Nor can it be a valid objection that too much time and attention are requisite during the one summer in which the pinching must be done. A careful consideration of what has been said above, or at least actual experiment, will prove that time and trouble have been saved.

The operator will be surprised at the speed and facility with which he can nip out the tender tops, compared with the time and toil of cutting the large, hard, and thorny wood of a year's growth.

Even if hedges could not be treated so "by the mile," this will not diminish the importance of the method to thousands of cultivators around our cities and villages, whose valuable products can be secured only by an impassable barrier of thorns.

For such purposes, the Orange hedge is unrivalled. To the fruit garden it is a body-guard of spearmen, ever ready to impale transgressors.

I do not say that hedges cannot be made thick and close by any other method, but only that I have found this a certain method, and I think it the best.

I should add, that in treating a newly-planted hedge, I would allow it to grow for one season to establish the roots. The next spring I would cut down to within three inches of the ground, and then commence the pinching of young shoots, as already described.

The extent to which the roots will exhaust the soil, being in proportion to the height and breadth allowed to the hedge itself, is very much under our own control in trimming. You may also root-prune by a deep furrow, which will limit the extension of the roots near the surface, and there will be no trouble with suckers.

ON THE CULTURE OF THE GESNERIA SELLOWII AND BULBOSA.

BY EDGAR SANDERS, ALBANY, N. Y.

THE two plants above mentioned may, perhaps, be considered too old, especially the last named, to require any writing about. However this may be, I venture to send a few practical directions which may not, perhaps, be in vain, as I do not remember to have met with any remarks on this fine stove plant, in the published volumes of the *Horticulturist*. The *Gesneria bulbosa* is an old acquaintance, having been known for many years, while the *Sellowii* is of comparative recent introduction (1837), altogether superior to the former, and I hesitate not to set it down as one of the best plants that can be grown in the hothouse for winter flowering. The principal difference in the two is, that in *bulbosa*, the flowers all spring from a common centre, while in *Sellowii* they spring from

lengthened terminal racemes, in length somewhat in proportion to the health of the shoot, so that the number of flowers, often three inches long on each stem, is much greater in this than the old one. The leaves are also larger and more heart-shaped; both are very downy, and when well grown, form not the least interesting features in the plants.

Like many of our beautiful hothouse flora, they are natives of the southern part of this hemisphere (Brazil), and although introduced so many years, it is by no means so common as its merits deserve. It is allied to *G. faucialis*.

CULTIVATION.

The principal feature in the growing of this kind of bulb in perfection is, the giving them a distinct season of rest and growth, the former by entirely withholding water for a time. We have now plants not over three or four years old, with as many as eighteen shoots finely breaking forth; perhaps some of these may not come to perfection, but it will be more from want of pot-room than inability of the plant to carry them. They are more generally seen with from two to three stems only. By introducing them to the hothouse at different times, a succession of plants is the result; our earliest bulb has eight shoots, which are fast advancing to flower.

About the first of September, we introduce the first, cutting off the old shoots whether decayed or not; this is highly important, or the shoots will start only one or two at a time, the strongest taking the lead, and starving the remainder to death. Give little if any water, till they begin to break, and as soon as they have nicely started, shake away the old soil pretty clean, not injuring the roots, and repot into the same sized pot. When the roots get well to the outside of the earth, we give them the final shift, depending entirely upon the number of shoots the plant is expected to perfect, as to the additional sized pot the same will require. But it may be safely taken as a rule, that a plant with three shoots only, will have room enough in one size larger; with six shoots, two will not be too many, while for twelve or eighteen, at least four sizes will not be too much. This kind of potting requires a cautious preparation of the soil as to its mechanical texture, or there will be danger of the soil becoming sodden before the roots can fill it. But with this care it is unquestionably the best mode, as the roots have then perfect freedom without being disturbed by the process of repotting. When out of flower, and the beauty of the foliage is no object, they may be stood anywhere out of the way, but should not be moved out of the stove till May, after which a sunny place in the greenhouse or pits will do, watering them seldom. By midsummer, lay them on their sides under the stage, selecting the earliest first—the rest, a little while after; give no water till wanted to start again for winter. They can be easily raised by cuttings, leaves, or seed. The soil should be light and friable—two-thirds may be rotten leaves, or the soil from pine barrens; one-third turfy loam, and at least a sixth of the bulk white sand and fine pieces of charcoal.

SOUTHERN APPLES.

BY H. R. ROBESY, FREDERICKSBURG, VA.

MR. EDITOR: Having frequently been asked for a list of *winter* apples, adapted to the Southern and Middle States, I herewith send you a list that may be relied on; a part of them originated in Virginia and North Carolina:—

ABRAM.—Medium size, dull red stripe, peculiar, agreeable aromatic flavor, will keep till May, a great bearer.

BEVERLY'S RED.—Rather large, red, very good.

CART HOUSE.—Medium, red, long keeper, fair quality.

BONUM.—Large red, good bearer, one of the best.

HEWE'S CRAB.—Small, superior for winter cider, a great bearer.

WAUGH'S CRAB.—Rather large, lively red, flesh very white, fine grained, makes a fine white cider in January, in the spring it is one of the best eating apples, very juicy and sweet, will keep till June.

HOLADY'S SEEDLING.—Large, yellow and russet, flesh a little coarse, very tender and juicy, a good keeper, one of the very best.

RAWLE'S JANETTING.—Large, stripe on a yellow ground, well known as rich and juicy, bears and keeps well, and one of the best.

LIMBERTWIG.—Rather large, dull red, and yellow, a regular and good bearer when kept in dry sand, to prevent shrivelling, until March; it is a rich, tender, juicy apple.

LEATHER COAT.—A great bearer, and keeper, quality fair.

MILAM.—Red, rather a shy bearer, until the trees are fully grown, quality very good.

COOLEY.—Large, greenish yellow, quality very good, great bearer.

BROOKE'S PIPPIN.—Very large, yellow, flesh very tender and juicy, keeps well until spring, great bearer; the best.

PRIOR'S RED.—Large, irregular stripe, spotted and russet, the best.

LONG ISLAND RUSSET.—Large, keeps pretty well.

STRAWN'S SEEDLING.—Large striped, good bearer, very good.

BELL FREE.—Large, greenish yellow, very good.

ALBEMARLE, OR MOUNTAIN PIPPIN.—Very large, greenish yellow, very tender and juicy.

C. C. WELLPORD.—Rather small, handsome yellow, very tender, rich and juicy, will keep till June; the best.

WINTER QUEEN.—Handsome stripe, good for early winter.

VANDERVEER.—Dull stripe, a great bearer, keeps well, very good.

WINE SAP.—Large, dark red, a good and early bearer, very good.

THE LATE GALE AT THE EAST.—A gentleman of Hartford, Conn., weighed a branch of a tree that had been broken by the weight of ice upon it, and found that it weighed eleven pounds. The ice was then melted off, and the branch weighed only half a pound. This great proportion of ice accounts for the destruction of trees and branches.

IRON VASES.



THE manufacture of ornamental articles from Iron has arrived at great perfection in Philadelphia; particular attention is paid to this department by Mr. Robert Wood, on Ridge Avenue, who has a most extensive establishment, and artists regularly employed in making designs for iron railings, vases, &c. One of the latter we have obtained permission to copy as every way suitable for a garden, terrace, or other situation, where such an article is wanted. From time to time we shall give other designs from this source, believing that they supply an extensive want for permanent ornamentation. The base is also of iron.

BUTTER.—A lady in New Jersey, who supposes our knowledge more extensive than it really is, asks how to make butter come? A good plan would be to pack it up nicely and put it on the — railroad; it would be sure to come if properly directed.

Editor's Table.

THE VINEGAR PLANT.—The hint thrown out in the December No. respecting this valuable plant, attracted considerable attention. It appears that what was considered a strange novelty, is known and employed by many persons in various parts of the Union; the circumstance is an evidence of the necessity we all are under of being taught, and will serve to show the utility of periodicals. Complaints were rife that good vinegar was not to be bought, especially after a bad apple year; notices of this substance occasionally struck us in English publications; and we remembered it at Kew, but what was it, and where was it?

We applied first to the head-quarters of Science, but the oracle, much interested, however, knew it not, but applied to others learned in that walk of botany; the first reply declared its faith small in the vinegar fungus. A second had no doubt it could be produced, but practically knew nothing of its value. Then came several letters from various points of the compass stating that the plant was in their neighborhood, but its practical use they could not describe. "I tasted," says one, "part of a barrel made by the plant yesterday, and it was certainly excellent; it was made by an Englishman, and he says it is the same as is used in England." Another says: "The plant can be obtained of * * * Ann Street, New York." Another correspondent says: "I knew nothing about the vinegar plant till a few months past my wife procured one, and has ever since made her own vinegar with it, and the vinegar is the best I have tasted for years."

Then came a letter from Naperville, Illinois, saying: "The vinegar plant you described on page 570 (Dec. No.), *Horticulturist*, as 'exhibited at Kew Garden Museum,' we have and use. Your description of the mode of making vinegar is much the same as ours, except that we do not always use the yeast. It is the least expensive mode of making good, wholesome, vinegar I know of. Most of the various kinds of patent vinegar are fit only to be 'cast out and trodden under foot,' being pernicious to health.

"I would advise all who have not cider vinegar, to use the vinegar plant, or the following receipt, in making their vinegar: To 16 gallons water put 16 pounds common brown sugar, add 1 gallon molasses; scald together, put into a cask, and when cooled to about blood-heat, put in 1 pound bread-dough, raised by *hop yeast*; place the cask in the sun or some other warm place. In two or three months (according to the temperature), it will form as good vinegar as that made from cider. Should you wish it, I will forward you, by express, some of the plant; but you can produce it as above.

Respectfully yours,

"LEWIS ELLSWORTH."

"In reply to your communication about the vinegar plant, first: It is curious and very tender; if frozen, turned over, or moved around, it dies; when dead, it sinks to the bottom at once. The value of it no family knows till they have had it. Money could not buy mine, if I could get no more. A family, with one plant, can always have plenty. As to economy, the value of one pint of West India molasses, one gallon of water, six weeks of July weather, or by a warm stove, and you have as fine vinegar as ever was placed on table. It improves by standing, after the plant is taken off and the vinegar put into a keg. The plant floats on the top, and must not be disturbed after it is placed on the surface, and the same when taken off from the mother plant. A small piece grows to cover the top of a bucket or jar, to half an inch thick; when the vinegar is perfect, it begins to sink; it must then be removed

and a new preparation made; you will find new leaves or folds on the under side, which must be put on the new preparation. Yours very respectfully, H. H. RANDALL, *New York.*"

ANSWERS TO CORRESPONDENTS.—(GRAPE-VINES.) 1. What time should grape-vines be trimmed? 2. When should the slips be set? 3. And what time should young plants be transplanted?

AUGUSTUS RICE.

1. November is the best time to prune either native or foreign grape-vines. Plants absorb much nutriment by their roots during winter. By pruning at this time the buds that are retained have the benefit of the winter accumulation, and will, in consequence, grow more vigorously.

2. Native varieties are propagated by cuttings; collect these, when pruning, and cut them in lengths, each having three eyes or buds. Prepare them by cutting off close under the lower bud, and about one inch above the upper. Bury them in dry soil, and plant them as early as convenient in spring; choose a sheltered spot, and press the soil well about them.

Tender sorts are generally raised from single eyes, with about an inch of wood to each. They are planted in pots or shallow boxes, and placed in a hotbed, where there is slight bottom heat. They root readily in this manner.

3. For several reasons, spring is the best season for transplanting in the Middle and Northern States. The roots should be carefully spread out, near the surface, and mulched with rotted leaves or manure during the summer. They should be pruned down to two buds, and the weakest of these rubbed off, after they begin to grow. Plants in pots may be set out at any time during spring or summer. One year old plants are preferred for transplanting, either in the vineyard or grapery.

(J. J. DELCHAMPE.) With regard to your persimmon-trees, we should be inclined to witness such a fact before deciding. Your tamarind seeds came up "locust-trees" because none but a botanist could distinguish the difference in the pinnated leaf. Wait till they bear, if they ever do; the tamarind is a tropical fruit.

TORONTO, U. C., *Tenton Cottage, Dec. 20, 1855.*

TO THE EDITOR OF THE "HORTICULTURIST." SIR: Would you have the kindness to state, at your earliest convenience, what may be considered the best twelve varieties of apples of the following: 12 table (autumn sort); 12 table (winter sort); ditto pears, and oblige

Yours truly, J. D. HUMPHREY.

Best Twelve Autumn Apples.—Autumn Pearmain, Clyde Beauty, Fall Pippin, Gravenstein, Hawley, Jefferis, Late Strawberry, Melon, Northern Sweet, Porter, Republican Pippin, Smoke House.

Best Twelve Winter Apples.—Baldwin, Bailey Sweet, Esopus Spitzenberg, Hubbardston Nonsuch, Jonathan, Ladies' Sweeting, Monmouth Pippin, Northern Spy, Red Canada, Rhode Island Greening, Swaar, Wagener.

Best Twelve Autumn Pears.—Beurre d'Anjou, Beurre Clairgeau, Brandywine, Chancellor, Duchesse d'Angouleme, Doyenne Boussack, Flemish Beauty, Kingessing, Kirtland, Seckel, Tyson, Urbanite.

Best Twelve Winter Pears.—Beurre d'Arenberg, Beurre Raster, Beurre Gris d'Hiver Nouveau, Columbia, Cross, Doyenne d'Alençon, Glout Morceau, Lawrence, Passe Colmar, Prince's St. Germain, Vicar of Winkfield, Winter Nelis.

In regard to "cooking pears," which our correspondent asks about, we would remark that the finer table kinds are as suitable for culinary purposes as those that are good for nothing else. Then why cultivate varieties for the kitchen that are worthless for other purposes? The Pound Pear, however, keeps so well we must recommend it for this purpose.

(S. MILLER.) Your invention we shall probably employ. The apples drawn have been described.

(DR. C. CLARK, Covington, Indiana.) The committee on the Mathews curculio remedy will probably never report, because they have nothing to say, as we understand it.

(A. N. WYLLIE, Chesterville, S. C.) 1. All the family of junipers or cedars graft very readily on each other. The mode most usually employed is that called wedge-grafting. Evergreens require more care under the operation than deciduous trees, and are operated on with the use of glass, as, when fully exposed to the open air, they are with difficulty prevented from drying up before a union takes place. In the open air, whip-grafting, with the end of the scion stuck in a potato, sponge, bottle of water, or anything that would give out moisture, would be the best mode of procedure. Half ripened wood must be employed for scions.

2. The Sequoia (Wellingtonia) gigantea and California cypress, can be had in the Philadelphia and Rochester nurseries, at about two dollars each—small plants of course. Cupressus sempervirens we have seen in Philadelphia nurseries; it is not considered hardy enough for northern nurserymen. Your promised favors will be very welcome.

(J. S., Lithgow.)—**DWARFING APPLES.** You will find much useful information in *Barry's Fruit Garden*. All kinds of apples may be dwarfed on either the Paradise or Doucain stocks—which are seldom raised in this country, but are for the most part imported from France, where they are raised from seed.

We have a larger pear yet for the "Country Gentleman," which will go far to fill the barrel in which he "bottles daylight!"

SAXONIUS will pardon us if we do not insert his little poem, which has merit; but we are crowded with matter of greater interest to our readers.

THE CULTURE OF THE GRAPE, AND WINE MAKING.—By Robert Buchanan. We are not surprised to see a sixth edition of this very valuable and interesting manual, from the Cincinnati press. It is exactly what its purchaser wants, is full of facts, and not a word too much will be found in its pages. It is a highly creditable and extremely useful work, which should be in the hands of all who have a grape-vine or a strawberry bed, the latter fruit being treated of in a supplement. Mr. Buchanan's name is favorably and inseparably connected with the enterprise of grape-growing in the West.

J. J. THOMAS will accept our thanks for a copy of his *Annual Register of Rural Affairs*, published by Luther Tucker & Son, Albany. It is well done, and the best almanac for the farmer, &c. The report of the New York Fruit Growers Society came too late.

CANADA.—We have to acknowledge many favors in the way of subscriptions and good opinions from Canada, where there evidently exists a large class of tasteful lovers of Horticulture. We should be pleased to hear from some of them respecting their gardening, and other experiences.

ACKNOWLEDGMENTS are due to several friends to whom private letters seemed more proper than publicity, but there is one which deserves this kind of reply. Thaddeus Davids & Co., manufacturing stationers, New York, have forwarded us a year's supply of both black and indelible inks, sealing-wax, and extra scarlet congress wafers, which are all of the best quality, and are rendered more valuable by the graceful manner in which they were presented. They close their note, and a famous subscription list, thus: "With our best wishes for the complete success of the *Horticulturist*, and the hope that you will soon be enabled to

say that its subscription list is longer than any other monthly now published, which, in our opinion, it richly deserves; a single article has been of more value than ten times the cost."

A SMALL POST, $4\frac{1}{2}$ feet long, morticed and braced in a sill, is set 2 feet in the ground, at each end of a row of raspberries, and a wire, about No. 6 in size, is drawn tight from one to the other along the bushes. The vines are kept in their places by a small wire

loop, attached by both ends to the wire and encircling all the canes in one stool, or less, as you may fancy. This apparatus is less trouble, when once arranged, and lasts much longer than the old method of putting a stick at each hill, and as it shows but little, of course looks better.

SUBSCRIBER.

WEST TOWN, Mass.—DEAR SIR: I should like to send you some of my seedling potatoes in the spring. They are from the "caster" variety. They are very productive—the parent yielding more than two hundred and seventy-five, and the highest five hundred and eighty bushels per acre, without any manure, except plaster and ashes.

I have also some nine hundred to one thousand varieties from the boll, not yet perfected. I will send you a good variety of choice squash seeds.

I have found out a sure preventive of crows and worms working on corn and other grain; also to keep off bugs on vines, and it is *sure cure*; and last year I tried the same on plum-trees, and kept off the black knots, and it works to a charm; for, out of five plum-trees, in a row, to the two middle ones I applied the wash, and they had not a knot on them, and grew double what the others did, and the others were covered with black knots. I cannot say that it will always do the same, as I have only tried it on trees one year. I have applied for a patent. If generally used, it will add millions of bushels of grain to the yearly product.

Yours truly, and very respectfully,

D. A. BULKLEY.

THE SEASON OF 1855.—The extreme cold weather which prevailed in February of 1855, was fraught with danger to all kinds of fruit-trees and vines. Fortunately, with us in Western New York, the peach-tree and grape-vines were the only sufferers. The loss of the peach is a calamity, for it seems a very necessary luxury, and is always considered a great promoter of health. So, also, with the grape. Some few produced on vines, not exposed, from the Catawba and Isabella, and instances of the Clinton, were had, but generally a failure in the crop. While many of the peach-trees were killed (the old ones) the young ones, from protection of the snow, escaped, which have made a wonderful growth—having a promise of fruitfulness for 1856.

We look forward to large crops for the coming year. We can add that, we have never known such a bountiful supply of first rate pears as 1855 produced. White and gray Doyenne, Stevens' Genesee, Seckel, Sheldon, Louise Bonne of Jersey, Duchesse d'Angouleme, and splendid Duchesse of Orleans, we luxuriated upon. Our fruits matured finely, and had all their characteristics of juice, flavor, and aroma.

Up to the 20th of November, the weather remained so mild that we had under our windows that charming, fragrant plant, the Mignonette in perfect bloom. This day, the 25th of December, almost the first snow of the season has appeared.

We went to call on our mutual friends, Ellwanger & Barry, and they provided a substantial treat of winter pears, worthy of the day.

We hope to not give offence if we mention, in this public manner, what a luxury we found them to be. A discussion is sure to arise amongst those who love fruit, especially when one

can test their merits. Mr. Barry kindly went to their cellar and brought the Winter Nellis, Easter Beurre, Vicar of Winkfield, Beurre d'Arenberg, and St. Germain.

I need not say they were all good, but the Easter Beurre bore the palm, in our humble opinion. While partaking of their hospitality, I thought of what a service these gentlemen, with others of the same profession in almost every portion of the States, had done our country in the introduction of so many kinds of rare fruits amongst us.

The day was propitious for a walk, and although many of the trees were denuded of their foliage, we could admire the beauty of their symmetry. It was a winter scene of beauty, for the evergreen trees were hung with tapestry of snow. They partook of the day, and were truly "Christmas trees." Ours was a happy day, such as we hope your readers all had.

Truly,

JAMES H. WATTS.

ROCHESTER, Dec. 25, 1855.

MANCHESTER, ADAMS Co., Ohio. DEAR SIR: I planted a lot of dwarf pear-trees on the 11th of April last, and one of them (a Beurre Diel) bore *fine*, good pears, all of which ripened nicely. Have any of your correspondents a tree of present year's planting that can beat it?

Yours with respect,

JOHN ELLISON.

[It is not a very unusual circumstance for pear-trees, which have been carefully taken up in spring, to produce the same year. We have on hand a few Easter Beurrés raised under these circumstances the past season.—Ed.]

WOODLAND PARK, Springfield. DEAR SIR: It is with great interest that I monthly peruse your excellent journal, *The Horticulturist*; it stands the highest of any horticultural work in this country, and seems to me destined to have the largest number of subscribers of any work of the kind.

Having been a subscriber of the journal for the last six years, have been glad to see it prosper, and hope it may continue to give the information that is required at the present day, on the subject of horticulture.

The cultivation of the pear has been my hobby for the last four years, and I have found it a pleasant pastime—have not realized much from my orchard yet, but live in hopes. May we not hope to see this delicious fruit abundant ere long, that all may partake of it?

Yours very truly,

D. CHAUNCEY BREWER.

TREES IN ILLINOIS.—J. T. Little, of North Dixon, Illinois, sends us a neat descriptive catalogue of his nursery trees and shrubs, bulbs, &c. The fruit department is very full, embracing sixty thousand trees; but of evergreens, one of the great wants of that State, four varieties only are enumerated. Send at once, Mr. Little, to Liverpool or Angers, and get out some thousands. Dixon, we remember, as a most happy, thriving place.

FOR THE HORTICULTURIST.—W. R. Prince was right when, some time ago, he asserted in the pages of the *Horticulturist* that the "tamarind was not growing in Virginia." His reason was that it was "too tender to stand our mildest winters." Whether this is true or not, I am not well enough acquainted with its habits to say; but my son, Oliver Taylor, being in Winchester, some time since, on business, and being desirous of becoming acquainted with all rare trees and shrubs, inquired for the Tamarind-tree, and was shown a tree that they called by that name, but which he immediately recognized as the Honey Locust (Sweet Locust, *Gledithia Triacanthos* of Michaux). They were loth to believe they had been mistaken, but he was too well acquainted with the Honey Locust to be himself mistaken, while the tripple thorns and pods were unmistakable evidence of the fact.

YARDLEY TAYLOR.

LOUDON COUNTY, VA.

M. BONPLAND, the celebrated fellow-traveller of Humboldt, is still living in Paraguay, rearing the tea of that country, in the eighty-third year of his age, only a little younger (!) than his quondam friend.

THE DIOSCOREA BATATAS, &c.—From several quarters we have favorable accounts of this new yam, but sufficient time has not yet elapsed to pronounce authoritatively on its merits for this country. At a late meeting of the London Horticultural Society, roots were exhibited, and it was stated that small tubers answered better for increasing it than the little pea-like buds formed everywhere in the axils of the leaves. It was also mentioned that, as the thick end of the root is that which penetrates the soil, and as it goes nearly straight down into the earth, deep land is indispensable to its successful cultivation. We are ready to hear and promulgate any experience that may have been had respecting this yam from our correspondents. The following, from the *Gardener's Chronicle*, contains allusion to this and other interesting matters:—

"We have occasionally called attention to the introduction of the Chinese potato (*Dioscorea batatas*) into this country and France; the subject is now discussed at length in a book published by Mr. Henderson, the well-known agriculturist. The plant, he says, is not liable to disease, and yields twenty-four tons to the acre. It appears, too, that a highly nutritious pea from China has been recently tried in France, and with marked success; and the Chinese sugar-cane is found to grow well in Belgium, and produce, as is estimated, 100 gallons of cider to the acre, and a large amount of fibre fit for the manufacture of paper. The Geographical Society of Paris has given one of its medals to Monsieur Montigny, Consul at Shanghai, as a reward for his having sent over the potato above mentioned, and some other useful plants, and the oak silk-worm. Dr. Beauvoys informs the *Société d'Acclimation* at Paris, that the vapor of tow, which has been soaked in a solution of nitre, is an excellent means of stupefying bees, without injury, at the time of taking the honey. At a late meeting of our Horticultural Society, stalks of *Holcus saccharatus* were exhibited which had been grown in the royal gardens at Frogmore; a plant said 'to be grown in India for its grain, and supposed by some likely to prove ultimately a substitute for the sugar-cane.' A bunch of grapes was also exhibited from Karl de Grey's gardens in Bedfordshire—a kind known as Black Barbarossa. It weighed four pounds, measured eighteen inches in length, and a foot across the shoulder."

BOTANICAL.—"The tree is known by its fruits." An exception to this is the dog-wood, which is known by its bark.—*Punch*.

NEBRASKA.—We are glad to welcome to our audience the names of several subscribers from the new territory of Nebraska. Even amid the din of noisy men, the peaceful art of horticulture finds its followers; an evidence that everything is not swallowed up in political discord.

Kew GARDENS.—The account of a visit to Kew Garden is continued in this number, and will be concluded in the next; its object will have been attained if it interests the reader to reflect on the immense variety of products which the vegetable kingdom supplies, varying no less in properties than appearance. We are lost in wonder at the marvellous nature of those processes, in which a difference, undiscoverable by all our most refined means of research, are productive of such a number of widely different results. And at the same time, the reflecting mind cannot forget that these results are all of a kind most valuable to man, furnishing him with the necessaries, the comforts, and the luxuries of life; support in health, medicine in disease, and the materials of great part of his clothing, his books, and

various articles which minister to his mental and moral improvement. Kew is a vast museum, where the collected plants furnish opportunities of minute inspection from which no thoughtful individual can retire without having his mind enlarged and elevated; he will rejoice, too, that such an opportunity is offered him, by the patronage of a wise government affording not only the facilities to collect these wonders of nature, but with discrimination to appoint to their care the best men of the century for such a paternal object.

CALENDAR FOR FEBRUARY.—We ask attention to the Calendar of Operations in the present number.

THE SEASON.—January with its severe weather, and thermometer so much below zero as we observe has been the case in all directions, has doubtless made many horticulturists fear for the future. Let us, however, hope.

THORNBURN'S CATALOGUE of Kitchen Garden Seeds for 1856, 15 John Street, New York, is a valuable list of seeds and other matters relating to gardens, which may be had by inclosing a stamp.

AGE OF SOME VARIETIES OF FRUITS.—The pear *Cuisse Madame* is at least over three hundred years old. The *Bell* pear of our orchards, and which is still a very popular variety, is a seedling from this, or at least generally supposed to be; and this is known to have been in existence at least two hundred and fifty years ago. P.

APPLES, ORANGES, AND PEARS.—It is a fact, that should be known to fruit growers, that in the fall of 1854, Havana oranges and good apples brought the same price in our market, by the barrel. In 1855 oranges were half the price. We dare say many a farmer would go into the business and try to learn how to succeed in it, if he were told he could grow fruit of the value of the best oranges. Pears, though it was a good year for them the past season, were worth much more, wholesale, than Havana oranges, and the market almost unsupplied. This may astonish many, but it is nevertheless true, and we hope will encourage those who have embarked in the business.

THE AMERICAN AGRICULTURIST, published at New York, by Mr. Judd, for January, is an able number. We think we recognize in the trip to Illinois, one of our fellow-travellers. The *Valley Farmer*, of Louisville and Illinois, we read with pleasure.

THE ILLINOIS STATE AGRICULTURAL REPORT, a goodly and most valuable work, shall receive attention in our next.

MORTALITY AMONG CHESTNUT-TREES.—All the chestnut-trees throughout Rockingham County, N. C., and the surrounding counties, have died this season.

MONSTROUS YIELD.—David Smith, of Monroe County, Ga., says that he picked from a single vine on his farm, the past season, one hundred and seventy-six ripe water-melons!

A FRUITY JOKE.—An amateur of music (who is also a wag) remarked, the other day, with reference to some strawberries on the table, "that he (the wag) would enjoy a pottle of strawberries all to himself, inasmuch as it would be as musical as well as a festive treat, for it would in fact be a solo on the Hautboy."—*Punch*.

GRANITE DUST A FERTILIZER.—A correspondent of the *Washington Intelligencer* says: "While examining the granite quarries at Northbridge, Mass., a few days since, I had a conversation with the workmen who were dressing out the stone, in reference to the dust that they were rapping off with a flat piece of board from the face of the stone they were hammering. The dust is reduced in the hammering of the stone to an impalpable powder, and will float in the air. I said to them that it would be well to try the vegetating powers of this granite dust in a hill of corn. They replied that it had been used in gardens and on grass lands with great success, and that it was equal to the best manure. The granite rocks may be ground to an impalpable powder and used as a fertilizer. Feldspar, a component of granite, yields potash, and may therefore be supposed to possess extraordinary fertilizing power."

THE DHOORA, OR INDIAN MILLET.—This plant bears a small kind of grain, much cultivated and extensively consumed in India and Egypt, and the interior of Africa; it is quite equal in nutritive value to the average of English wheats, and yields a beautiful white flour. Prof. Johnson, recently deceased, analyzed it, and found that it contained $11\frac{1}{4}$ per cent. of gluten. Now, since gluten is the chief nutritive ingredient of all our grains, this comparison of the professor exhibits, at once, a nutritive value for the Dhooora that surpasses some of the richest grains in use for the food of man or stock.

Some of this grain has been raised this year by Major R. A. Griffin, of Abbeville, S. C., and it has proven to be a valuable crop, as we learn by the *Abbeville Banner*. He planted it some time in April, four feet in the row, and fifteen inches in the drill, depositing five or six grains in a hill. He afterwards thinned down to one stalk, transplanting to hills that were deficient. This thinning is necessary, from the strong tendency of the plant to sucker and spread. The soil, such as would be selected for common corn, should be properly prepared and manured before planting; the yield is from eighty to one hundred bushels per acre.

Extending his experiments, recently, to the green stalk of the Dhooora, Major G. discovered a cause of its being so much relished by stock, and its singular fattening effects, in addition to the excellent qualities of its grain. He found, on chewing the stalk, which he perceived was consumed in this way by the stock, that it was exceedingly rich in cane juice—but little inferior to the sugar cane itself.—*Scientific American*.

HOWARD DANIELS, Esq., architect of New York, has just returned from Europe with a portfolio of drawings, and many useful and interesting facts regarding houses, gardens, &c., which may be advantageously adopted in this country. Mr. Daniels was much interested in the ornamental effects now produced in domestic architecture, by the proper display of brickwork, and has many designs to exhibit the results in a great variety of forms. This style is just coming into fashion, and may be seen in some recent examples in Philadelphia, where a prodigious effect is produced by simple means united to good judgment and taste.

A gentleman who spends his time and money in foreign lands studying their arts, as Mr. Daniels has done, for the purpose of improving the taste of his countrymen, is entitled to as much credit and notice as he who imports improved varieties of trees or fruits, or fine breeds of animals, and more than the professional politicians who carry the day. Mr. Daniels is a landscape gardener as well as architect, and his address is Broadway, New York.

THE IMPOSTOR'S GRAFT.—Mention is made by Pliny, of a tree in the garden of Lucullus, at Tivoli, which is described in his *Natural History*. On the trunk of one tree he saw branches

which produced pears, others figs, apples, plums, olives, almonds, grapes, &c. ; but he adds, that this wonderful tree did not live long. Even at the present day, the gardeners of Italy, especially of Genoa, Florence, and Rome, sell plants of jasmines, roses, honeysuckles, &c., all growing together from a stock of orange, or myrtle, or pomegranate, on which they say they are grafted. But this is a deception, the fact being that the stock has its centre bored out, so as to be made into a hollow cylinder, through which the stems of jasmines and other flexible plants are easily made to pass, their roots intermingling with those of the stock. After growing for a time, the horizontal distension of the stems forces them together, and they assume all the appearance of being united. M. Thounin, who calls this "The Impostor's Graft" (*Grefe des Charlatans*), tells us that he himself tried the operation with perfect success upon both a linden and an ash tree a foot in diameter. He contrived to give both of them heads of plums, hazels, wild and cultivated services, walnuts, peaches, and vines, the branches of which were thoroughly interlaced. Of one of these he gives a figure, which is here reproduced, and which perfectly illustrates the system.



Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The regular stated meeting of this Association was held on Tuesday evening, December 18, 1855, at Concert Hall, E. W. Keyser in the chair.

Premiums were awarded by the Committee on Plants and Flowers:—

Collection of Twelve Plants—for the best, to Thomas Robertson, gr. to B. A. Fahnestock; for the second best, to Robert Buist. *Specimen Plant*—for the best, to Thomas Robertson; for the second best, to John Pollock, gr. to James Dundas. *For New Plants*—a premium of two dollars for *Balsamina Hookeri*, to the same; of three dollars for *Thysicanthus rutilans*, *Cytisus onospermus*, *Aphelandra aurantiaca*, to Thomas Robertson. *Special Premiums*—three dollars to Robert Buist, for a collection of Correas, and one dollar to Robert Kilvington, for a fine specimen of *Cypripedium insigne*. *Table Design*—for the best, to Barry Higgins, gr. to

D. R. King; for the second best, to Thomas Meghran, gr. to M. Bouvier. *Basket*—for the best, to J. J. Habermehl, gr. to J. Lambert; for the second best, Mark Hill, gr. to M. W. Baldwin. *Bouquets*—pair—for the best, to John Dick; for the second best, to J. J. Habermehl.

By the Committee on Fruits. *Pears*—for the best six varieties, to John McLaughlin, gr. to I. B. Baxter. *Apples*—for the best six varieties, to Mark Bartleson.

And the Committee noticed with approbation, specimens of a Pear, presented by Robert Buist, the Doyenne d'Alençon, a choice variety. Also, a Grape called Wyman's Seedling, from Joseph Breck, Mass.; large in size, and soft in the pulp, but too far advanced to judge correctly of its excellence, but from the saccharine juice, suppose it good.

By the Committee on Vegetables. For the best display by a market gardener, to A. L. Felten. For the second best display by an amateur gardener, to Mark Hill. Special premium of two dollars, for three bunches of Asparagus, to William Bright, gr. to Joseph Lovering.

The Library Committee submitted their annual report. An appropriation of three hundred dollars was made for the increase of the Library.

The Committee for establishing premiums, reported a schedule for the year 1856, which, after amendment, was adopted.

Two gentlemen were elected members.

OBJECTS EXHIBITED.—Plants by Thomas Robertson—twelve plants: *Zygopetalum Mackayi*, *Plumbago rosea*, *Linum trigynum*, *Primula sinensis purp-plena*, *P. albo-plena*, *Poinsettia pulcherrima*, *Begonia incarnata*, *Cypripedium insigne*, *Pentas carnea*, *Correa ne plus ultra*, *Centradenia floribunda*, *Daphne indica rubra*. Specimen—*Correa Brilliant*. New plants—*Aphelandra aurantiaca*, *Cytisus onospermum*, *Thysicanthus rutilans*.

By Robert Buist—twelve plants: *Begonia incarnata*, *Linum trigynum*, *Correa multiflora rubra*, *C. speciosa ventricosa*, *Tropeolum Lily Schmidt*, *Luculea gratissima*, *Epacris Waltonii*, *Primula sinensis rubro-plena*, *Camellia*, Mrs. Cope, *Daphne indica rubra*, *Veronica Andersonii*, *Pitcarnea bractea rubra*; 12 *correas*, *Larpenaea*, *Magnifica*, *Linguiforme*, *ne plus ultra*, *delicata*, *Speciosa ventricosa*, *S. grandis*, *bicolor*, *Picta superba*, *speciosa*, *Farriassii* and *Turgida*. New Plant—*Aphelandra grandis*.

By John Pollock—twelve plants: *Torrenia Asiatica*, *Correa grandiflora*, *Begonia carnea*, *B. Laperousii*, *Cuphea platycentra*, *Eptphyllum truncatum*, *E. violaceum*, *Jasminum hirsutum*, *J. grandiflorum*, *Gesneria oblongata*, *G. Leopoldii*, *Ageratum Mexicanum*. New plants—*Balsamina Hookeri*, and *Begonia Laperousii*.

By Robert Kilvington—a very fine specimen of *Cypripedium insigne*.

Designs.—By Barry Higgins, gr. for D. R. King; by Thomas Meghran, gr. to M. Bouvier.

Baskets.—By J. J. Habermehl, gr. at Eastern Penitentiary, and Mark Hill.

Bouquets.—By John Dick; by J. J. Habermehl, and by James Kent, gr. to B. F. Knorr, not in competition.

Fruit.—By Isaac B. Baxter—*Pears*: *Beurre Rance*, *St. Germain*, *Broom Park*, and *Passe Colmar*—and *Apples*, the *Pittsburg Pippin* from J. C. McCammon.

By Mark Bartleson, near Fallston, Harford County, Maine—*Apples*, six varieties: the *Bell Flower*, *Fallen Walder*, *Pennock*, *Vanderveer*, *Hayes*, and *Roman Stem*.

By Robert Buist—*Pears*: a dish of the *Doyenné d'Alençon*.

Vegetables.—By A. L. Felten—a very large and fine display. By Mark Hill, gr. to M. W. Baldwin—a small choice display. By William Bright, gr. to Joseph Lovering, three bunches of *Asparagus*.

OFFICERS OF THE BROOKLYN HORTICULTURAL SOCIETY FOR 1856.—President—JOHN W. DEGRAUW. Vice-Presidents—HENRY A. KENT, WM. C. LANGLEY, WM. S. DUNHAM, J. S. T. STRANAHAN, W. W. CRANE. Treasurer—A. J. S. DEGRAUW. Corresponding Secretary—MILTON ARROW.

SMITH. *Recording Secretary*—M. BRANDEGER. *Executive Committee*—JNO. MAXWELL, IRA SMITH, H. A. GRAEF. *Finance Committee*—J. H. LESTER, JAMES PARK, JAMES HANLEHURST. *Library Committee*—M. L. SCHAEFFER, J. A. NIKSEN, WALTER PARK. *Premium Committee*—J. E. RAUCH, M. BRANDEGER, JAMES WEIR, GEORGE GANGER, GEORGE HAMLYN. *Committee on Fruits*—JAMES WEIR, J. E. RAUCH, WM. PAYNTER. *Committee on Plants and Flowers*—GEORGE GANGER, M. BRANDEGER, F. LANE. *Committee on Vegetables*—GEORGE HAMLYN, GEORGE INGRAM, MARTIN COLLOPY.

MILWAUKEE, December 20, 1855.

EDITOR HORTICULTURIST. DEAR SIR: The Annual Meeting of the Wisconsin Fruit Grower's Association was held at Whitewater on the 12th and 13th of December. The attendance was good, and the display of fruits interesting and attractive. The leading object of the Association is to determine, from the experience of its members, the fruits that are best adapted to our climate and soils. In respect to these, our situation is so different from that of horticulturists at the East that, while acknowledging the value of the information derived from them, we find that it will not do to be governed by it entirely. The discussions of our Association are conducted upon the plan of the Northwestern Fruit Growers' Convention, and by these, facts of great importance to the fruit growers of this State are elicited. They will be published about the 1st of February next. We shall be greatly obliged if kindred societies will send us their publications as they are issued. We are small yet—but we are growing! The following is the list of officers for 1856.

Yours, very truly,

CHARLES GIFFORD, *Corresponding Secretary*.

OFFICERS OF WISCONSIN FRUIT GROWERS' ASSOCIATION FOR 1856.—*President*—CHARLES GIFFORD, of Milwaukee. *Vice-Presidents*—CYRUS HAWLEY, of Milwaukee; ABEL SLOCUM, of Whitewater; H. T. WOODWARD, of Beloit. *Recording Secretary*—ANDREW CHILD, of Delafield. *Corresponding Secretary*—CHARLES COLBY, of Janesville. *Treasurer*—R. W. PARKER, of Milwaukee. *Executive Committee*—J. C. BRAYTON, of Astalan; H. J. STARIN, of Whitewater; A. J. HANFORD, of Waukesha.

Calendar of Operations.

FEBRUARY.

VEGETABLE GARDEN.—Among the essentials necessary to maintain high cultivation, a proper system of rotative cropping occupies a prominent place. Physiologists differ in opinion with regard to the principles upon which rotation is founded, but they agree in recommending its utility. There are two theories in vogue, which may be termed the excretory and the exhausting. The former is based on the supposition that, during growth, plants throw off by their roots certain peculiar substances injurious to themselves, but which promote growth in those of a different species. It is well ascertained that plants possess this power, but it is so limited as not to be considered sufficient evidence to account for the beneficial results of rotation. Those who advocate the exhausting theory prove it by the fact that, although all plants are composed of the same primary elements, yet, different species require different proportions of them, each having its own peculiar characteristic formation; so that if the soil is deficient in these particular substances required by a plant, it cannot prosper, notwithstanding that a plant of suitable formation may grow luxuriantly upon it. This points to the possibility of successfully cultivating the same crop on the same ground, by constantly supplying the ingredients extracted by the crop, but we have not as yet attained that perfect knowledge of the exact specific relations between the soil and the plants that grow upon it, to enable us to put the system in practice. Passing over, for the present, many

other advantages attending rotation, it may be remarked that there is a general ignorance of the subject, and a wide field for experiment in ascertaining the kinds of plants best suited to succeed each other, as our present systems are founded more upon convenience than science.

It is very evident, however, that crops cultivated for their seeds and fruit, as peas, corn, beans, tomatoes, egg-plant, &c., should be followed by those grown for their leaves and roots, as cabbages, spinach, beets or carrots; the seeds of plants contain a larger portion of mineral matters than the leaves, consequently there is a greater consumption of the inorganic substances of the soil.

Persevere in turning over the soil, and presenting new surfaces to be acted upon by the atmosphere. Even when the ground is frozen six or eight inches deep, it has been found beneficial to turn it over in *cakes* with crowbars and pickaxes. The most adhesive clayey soils can thus be rendered as friable, and admit of as early working as those of a loamy nature; their latent powers of action are drawn out and rendered available for the purposes of vegetation.

Preparations for cropping should now be commenced by making hotbeds for raising plants and forwarding early crops. Asparagus is a useful early vegetable, and its natural season can readily be anticipated by forcing in frames. Hotbeds are usually made with fresh manure, and much of their efficiency depends upon the preparation of the material. It should first be thrown loosely into a rounded heap; in a few days decomposition will be active and heat generated. It should now be carefully turned over and separated, mixing it thoroughly, and thrown together as before. This turning must be repeated as often as is necessary to prevent its heating to excess, which is indicated by its dry, charred-like appearance in the centre; when in this state it should receive a thorough soaking of water. When violent fermentation declines, it is ready for use. To produce an equal and gradual heat, care must be exercised in building, that it may be of equal firmness; pressure retards decomposition, the fresher the material, therefore, the firmer must it be put together. The making of hotbeds is apparently a simple process, yet few take the trouble to do it properly. Leaves of oak, beech, or chestnut-trees make an excellent hotbed; they decay slowly, and give heat for many months. A very slight warmth is sufficient to force asparagus, a bed of manure two feet deep will answer; cover with four or five inches of soil, and lay the roots close together, and spread two or three inches of dry soil over their tops. All the future care is simply to give a little air in mild weather, and cover up closely on frosty nights with straw mats, or other suitable protection. Air is the best non-conductor; endeavor to secure a stratum of it between the covering and the roof. For this reason, a loose covering of straw or hay, is more effectual in protection than half a dozen mats that lie compactly together.

A crop of radishes may be secured by sowing the seed when the asparagus is planted. Dwarf beans are also frequently raised in frames; they require to be kept dry and warm. Rhubarb and seakale are also suitable for this method of forcing—but they can be much accelerated by simply covering the plants with old boxes or barrels out of doors, and inclosing all with leaves or manure.

Tomatoes, egg-plant, lettuce, capsicums, &c., are most convenient when sown in boxes; they can then be removed, when found desirable, to a different temperature, or for transplanting—the sooner they are removed (technically, pricked out), the more robust and better rooted will they become; this applies to all plants that are transplanted when young.

FRUIT-TREES.—Prepare for planting by digging out the holes at the earliest opportunity; let them be deep and ample in every respect. In strong clayey subsoils, trenching with the spade, or loosening with the subsoil plough, are indispensable operations to success. It is cheapest in the end to give all the care and attention to planting that experience and science demand. Turn over the soil, and spread it out in sunny weather to dry and warm; most of the failures in spring planting are attributable to the fact that the atmosphere is considerably warmer than the soil, consequently the branches are excited before the roots are able to supply them with sufficient nourishment for continued growth.

GOOSEBERRIES.—In pruning these, thin out the centre of the bushes; fruit is produced both on the young wood, and from spurs on the older branches; cut out closely all shoots removed, and do not shorten the points of the young shoots unless your object is to produce wood.

CURRENTS.—Black, should be treated similarly to the above. Red and white, fruit principally on spurs, therefore shorten all the shoots to encourage these, and keep up an annual renovation by cutting out old barren branches, and supply their place with young shoots from the base. Break, instead of cutting off all suckers from the roots, which will prevent their increase.

GRAPES, HARDY—should now be pruned, where it has been neglected at the proper season in November. The bleeding that follows late pruning may not be permanently injurious, still it cannot benefit the plant, and may as well be avoided. There are few dwellings without a grape arbor or trellis, of tasteful construction frequently, forming a striking contrast to the miserable appearance of the vines trained on them. Luxuriant and fruitful grapevines are the exception everywhere. Much of this depends upon the neglect of proper pruning, but more frequently it results from the state of the roots. On clayey subsoils, which are cold and wet during winter, the young roots die at the points. They are late in budding, and a sickly shoot is produced which never ripens, and the winter kills it down to the main stem. The grape, above all other plants, requires a dry, or at least, a well-drained soil. A simple expedient in such cases consists in spreading a good dressing of enriched soil on the surface, and bending down the branches so as to cover a part of them six or eight inches in the soil. These will soon produce roots, which may be kept near the surface by annual topdressings. These bent branches should be severed from the main stem after they are well rooted, and, by repeating this operation, healthy vines may always be secured.

GRAPERY.—No subject in fruit culture has called forth so much discussion as the formation of grape borders; volumes have been produced on the subject; the essence of the whole may be comprehended in a single sentence, viz: That ordinary soil, heavily treated with good stable manure, well trenched, aerated, and drained, will produce better crops, and maintain the vines in a healthy, fruitful condition for a longer series of years, than any other composition that has ever been applied for this purpose. The border should be made on the surface, thus saving the expense of excavation, and facilitating the escape of water and drainage. There is plenty of room above, a circumstance that does not seem to have suggested itself to those who spend more in digging out pits, and then getting them laid dry, than all the fruit they will ever produce, will repay.

The border should be made on a porous bottom at least six inches deep, of broken stone, brickbats, charcoal, or any other article that will remain as permanent. It should be surrounded on all sides by a drain; cross-drains should be made every ten feet; at one end of each of these drains an upright shaft should be constructed for the admission of air; similar uprights should be attached to each where it crosses inside the house, so that a perfect system of ventilation may be completely under control of the cultivator. This is the great secret in grape growing; the chemical constitution of the soil is a minor consideration.

FORCING HOUSES.—Peaches, nectarines, figs, cherries, and plums are successfully forced in pots, or tubs, and, when properly managed, are comparatively more productive than trees in the open ground. The plants are more under control, and the roots being confined, favors the production of fruit buds. It is not requisite to have a separate house for each kind of plant. A house devoted to this purpose may be so arranged as to carry a crop of grapes, introducing the vines at a late period. Strawberries could also be produced on shelves near the glass. The temperature of such a house should range from 50° to 85°, or higher, with sunheat and sufficient humidity. Do not overwater the plants; syringe them lightly every day. Use no more fire-heat than is absolutely necessary, and see that a sufficient amount of moisture is produced, to counteract the aridity of the heating apparatus.

GREENHOUSE.—As the days lengthen, and the sun increases in power, the utmost vigilance will be necessary in this department. Most of the winter flowering plants will have commenced growth. Camellias and Azaleas that have bloomed should now be repotted if they require it. Use plenty of porous matters in the soil, especially for the latter. To have these plants in flower early next winter, forcing must be commenced now; encourage an early growth, that the wood may be matured, and flower-buds formed early in summer. Epacris should be pruned down after flowering; they are easily managed and beautiful flowering plants. The same may be said of Heaths. All New Holland plants—such as boronias, hoveas, correas, polygalas, acacias, beaufortias, chorozemas, davisias, croweas, dillwynias, diosmas, prostrantheras, pimelias, eutaxias, aphelexes, helichrysoms, eriostemons, and leschenaultias, require the same general treatment. They should be repotted this month, that they may have a good supply of roots before next winter; when growing, they like a moist temperature, frequent syringing, and to be kept rather close than otherwise. All newly potted plants should be sparingly watered, they will require less than before the operation, because the additional soil will longer retain moisture.

Leschenaultia formosa is frequently in collections, but generally sickly. It requires a warm, moist, close atmosphere while growing, and constant attention to picking off flower-buds when young. It needs a light fibry soil, and the drainage must be thorough.

Calceolarias, geraniums, and cinerarias should have their flower-stems secured to stakes, these supports should be kept as much concealed as possible; they cannot be dispensed with under present modes of culture, but it is a mistake to suppose that their tasteful arrangement is more meritorious than keeping a plant in good health.

Chinese primroses are indispensable winter flowers; select a few of the best for seeding, and pinch out all the flowers for the present, that they may bloom stronger when wanted.

Clerodendrons and fuchsias may now be brought out of their winter quarters, prune closely, and shake away all the soil from their roots, repot in small-sized pots, and water sparingly until they root afresh. Of course, this does not apply to young fuchsias which have been kept growing all winter; these should be repotted as they require it, and trained into a pyramidal form by frequent pinchings of the points; some varieties assume a pretty form without this assistance.

Ixoras, stephanotis, eschynanthus, ardisia, begonias, pleromas, marantas, justicias, centradenias, francisceas, euphorbias, clerodendrons, cyrtoceras, and many others, usually termed hothouse plants, succeed as well, and, in many cases, much better under greenhouse treatment. Even orchids, so much dreaded by amateurs, have been produced in the best perfection without a *stove heat*. They are easier to manage than hard-wooded greenhouse plants. It is worthy of remark that, in proportion as the cultivator becomes conversant with the physiology of vegetation, he becomes more liberal in his views; less particular about keeping up a certain temperature at all hours; not so fastidious about mixing homeopathic portions of soils and manures; in short, he studies Nature more, and systems less.

Achemenes tubers should now be planted; place them near the surface of the soil, and in the warmest part of the house. Gesnera zebrina, than which there is not a more beautiful plant, should be similarly treated. Gloxinia tubers, planted in small-sized pots, barely admitting the roots, and seed sown for plants to flower in autumn. Orange and lemon-trees, that have been kept dry and dormant all winter, may now be repotted; do not give them much water at the root, but wash the leaves and bark, and syringe them often to encourage shoots from the old stems; they are generally unhealthy, leggy, unsightly looking objects, although easily kept in beautiful condition. Pysidium cattleianum (the guava) is not so plentiful as it should be; it is a beautiful evergreen, fruit-bearing, greenhouse plant.

Very little artificial heat will now be requisite; be cautious in giving air in cold windy weather; rather allow the temperature to rise to 85 or 90 degrees during the heat of the day. Use the syringe freely in the early portion of the day over every part of the house, and on plants not in flower, and have no fear of the sun burning the leaves while the latter are wet. Burning proceeds from bad glass, combined with aridity in the atmosphere. Pick off all dead and decaying leaves, or withered flowers, and arrange the plants in groups, keeping those in flower on the lower shelves, with irregular masses of varied foliaged plants for a background. Nothing can be more monotonous than an even surface of plants, all seen at the first glance. It requires as much taste to arrange a greenhouse as to plant a lawn.

FLOWER GARDEN.—An estimate should be made of the quantity of plants likely to be needed for the flower-beds, and all deficiencies met by propagation. Of late years, the prevailing style of decorating flower-gardens has been in grouping beds of different colors, each bed being filled with one kind of plant. In small geometrical gardens this looks very well, if skillfully done; the plants best adapted to this style are those of compact habit, and free flowering properties; permanence of flower is a further requisite, colors brilliant, and the plant easily propagated. Geraniums, lantanas, verbenas, vincas, galardias, petunias, salvias, nierembergias, and heliotropes, are the most popular and suitable. The principal stock should be secured in the fall, at which period cuttings are readily procured.

Plants propagated now will grow as freely as those kept over winter; the latter, however, will give flowers earlier. There are various expedients for striking cuttings. A good one is to procure a box with sides a foot in depth, in which is placed a few inches of sand or light earth; set it on the greenhouse shelf above the hottest part of the flue or waterpipes, the bottom of the box should be thickly perforated with holes, to admit heat to the sand; the box should be covered with large loose squares of glass; its ample sides obviate the necessity of shading.

Roses; to have *perpetual*, recourse must be had to deep culture. Dig the soil to a depth of eighteen inches, and throw aside the subsoil, supply its place with good surface soil and manure; to have continued bloom, the plants must be kept in continued growth, and that can only be guaranteed by allowing the roots a deep and suitable medium, to escape from the burning sun and severe droughts of summer. A score of plants thus cared for, will give more flowers than a hundred under ordinary treatment.

WILLIAM SAUNDERS.



The Great West—Illinois and her Prairies.



WHEN we reflect on the prairie of the West, and remember the activity of the inhabitants of that great field, we are lost in pleasing anticipations of the future, as well as with gratification at the prospects they already present. In reading, as we have done, the volume of "*Transactions of the Illinois State Agricultural Society, with the proceedings of the fair and kindred associations*," as prepared by the State Agricultural Society, we come almost into the presence of the great pioneers, such as we would have seen them in person before. The spirit that animates and moves them is so surprising, gratifying, and unique. The volume is the first successor of a long series which will record the active and successful career of unexampled prosperity, upon plains formed by Nature—

"Where an heroic part in the celestial work
The hand that firmament and earth heaves
And smoothed the verdant swells and sown the slopes
With herbage, planted them with living groves,
And lodged them round the earth with living flowers
For this bright recent time
With flowers whose green and gold and purple
Rival the constellations of great heavens
Seem to stoop down upon the living
A nearer vault, and of a nearer sky,
Than that which bends above the corn hills."—*Brontë*

Dr. Kennicott has executed a task which the gratitude of the State will never forget. It was no small labor to gather all the various merit which compose this volume, and though we could wish that a packer had been employed, the result is so good that we pardon the slight defects which are introduced by the printer. We cannot but be proud.

A young State, by comparison, in which the soil to depend upon, she has found a bold and capable for turning its blessings to the best use; prophet to foretell; unnumbered millions will follow her plans; man, here, is destined to fulfil all the which he was



The Great West—Illinois and the Prairies.



WHEN we reflect on the prairies of the West, and remember the activity of the inhabitants of that great Empire, we are lost in pleasing anticipations of the future, no less than with gratification at the aspects they already present. In reading, as we have done, the volume of "*Transactions of the Illinois State Agricultural Society, with the proceedings of the County Societies and kindred associations,*" as prepared by Dr. John A. Kennicott, we come almost into the presence of a race of *mental pioneers*, such, as we verily believe, the world never saw before. The spirit that actuates and *moves* that region and its neighborhood is surprising, gratifying, and unique. The volume is the "first," no doubt the predecessor of a long series which will record the advance of our race through a career of unexampled prosperity, upon plains formed by Nature—

"Where man hath no part in all this glorious work:
The hand that built the firmament hath heaved
And smoothed these verdant swells, and sown their slopes
With herbage, planted them with island groves,
And hedged them round with forests. Fitting floor
For this magnificent temple of the sky—
With flowers whose glory and whose multitude
Rival the constellations! The great heavens
Seem to stoop down upon the scene in love—
A nearer vault, and of a tenderer blue,
Than that which bends above our eastern hills."—*Bryant*.

Dr. Kennicott has executed a task which deserves the gratitude of every citizen of the State. It was no small labor to consign to print all the manuscripts of various merit which compose this goodly volume. Most ably has it been accomplished, and though we could wish that paper a little thicker, and ink a little blacker had been employed, the contents are so suggestive and full of information, that we pardon the slight defect for the knowledge it imparts, and more especially for introducing us to the *mind* of the State, of which, as an American, we cannot but be proud.

A young State, by comparison, in wisdom Illinois is old. With a wonderful soil to depend upon, she has found a bold and active people to cultivate it, with capacities for turning its blessings to the best account; her future it needs no prophet to foretell; unnumbered millions will enjoy the light of happiness upon her plains; man, here, is destined to fulfil all the objects for which he was created;

the ample means are all around him ; he has only to be true to himself and his mission, to garner and gather the fruits which are nearly spontaneous. To use a phrase in vogue among the people, this State is just what was wanted—"it was made to order."*

The book is of great value not only to Illinois, but to the entire western settlements; its facts are of a practical kind, and come from practical men; having said this, and advised all who can to read the book, we proceed to a short and rambling examination of the contents that relate to our own subjects.

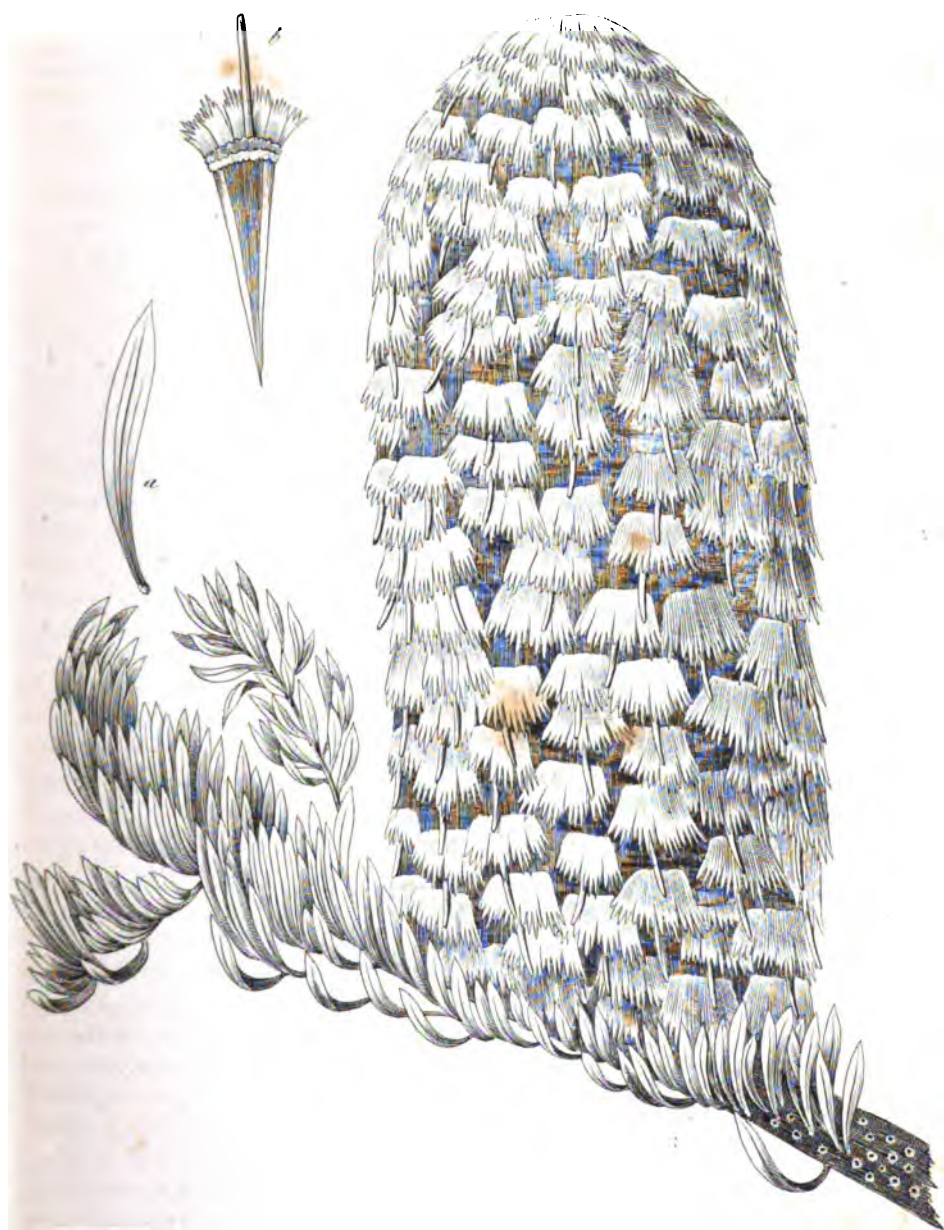
The Hon. M. L. Dunlap, at page 524, has some remarks on the "air currents" of that region to prove that they have the winters naturally belonging to their latitude, while the summers are two or three degrees of latitude warmer than their neighbors on the same parallels; thus, plants are grown in one climate, and wintered, to all intents and purposes, in another; this fully explains why so many varieties of fruit-trees and shrubs, which appear to flourish so thoroughly, are ruined by the severity of the winters; the fruit-grower will have to learn how to take advantage of the warmth and guard against the cold, and it will undoubtedly be found that *shelter* is the true remedy. The warm-air current, too, meets the cold of the north, and floods of rain result, or droughts, without this taking place, occur. Trees are wanted, not only for shelter from the wind, but a more equal distribution of timber through the State would, doubtless, produce more equal distribution of moisture.

After a hasty visit through the prairies, which are yet mainly unsettled, we were greatly exercised to know what we could do to assist the "new-comers" to good trees that would afford shelter; several letters passed between us and influential men of the State on this subject. Timber or mountain ridges are essential to check the powerful winds which sweep the prairies so unmercifully. We found the topic, as was to have been expected, had engaged the thoughts of others. In this volume there is an essay by Charles Downing, which it were well to call attention to. In a single page it contains the wisdom of an extensive treatise, and we, therefore, shall present it on a future page.

"Banish the winter winds from the prairie," says Samuel Edwards, of Bureau County, "and the climate of Illinois is, without doubt, one of the finest on earth,

* Dr. E. R. Roe, at page 507, remarks: "The whole prairie region of Illinois, so far as have examined it, consists of materials which have been transported from the North—even from the regions of Lake Superior. It matters little in what the transporting agency consisted; the fact is clear to the geologist, and to all intelligent observers that the soil and earth consist of the broken, crushed, and pulverized rocks of the formations many miles to the northward." It would be injustice to omit the mention of Robert Kennicott's contributions to the Natural History of the State; he is a very young man, a son of Dr. Kennicott, and promises to be one of the best naturalists of our country.

If arguments thoroughly enforced are ever wanted for the necessity of educating the industrial classes in useful things, Professor J. B. Turner's writings and speeches in this volume will be found to be sound and unanswerable.



AEIES NOBILIS

rivalling Italy in its cloudless sky and serenity of atmosphere. A belt, several rods in width, of forest trees should be planted near buildings, on west, north, and northeast sides. For those who would have the *very best*, I would recommend evergreen-trees, of which the Norway spruce, hemlock, and American arbor vitæ are the most durable for screens. Plant seedlings; by the time they are of a proper size there will be a demand for all in the market"—and fifty times more, we add. He recommends, also, Austrian pine, black spruce, Scotch pine, red spruce, Cembran pine, Norway pine, white pine, European silver fir, and Siberian arbor vitæ. Of these, we should give the preference to the Austrian pine and the silver fir. Mr. Edwards thinks that cedar of Lebanon, Deodar cedar, Araucarian pine, Excelsa, Douglass spruce, Menzie's spruce, and English yew, are too tender; with the protection of hedges this can hardly be the case; they should not be given up without many efforts. Evergreens are what are most wanted.

One of the best essays in the volume on tree culture is by Edson Harkness. He considers that all the elements of nutrition for growing timber seem to be abundant in the soil of the prairies, and success has attended his experiments in deep black soil, with a nearly level surface. His list includes the above trees, and embraces American larch (tamarac), tulip and chestnut, black and white walnut, black locust, and Lombardy poplar. Of these, we should select the black walnut, the wood of which has already an increasing commercial value, and is second to mahogany; and for early use the American larch, which would very soon make valuable poles, and when thinned, the remainder would become highly useful timber. An acre—says another writer, Adnah Williams, of Galesburg—of locust would give a result of \$480 in seventeen years, or nearly \$30 per year as the product. Here is inducement enough to grow timber on land that could be bought much below a few months' return, and locust posts will always be wanted in that country of railroads. But the great idea combined is shelter, protection, and consequent comfort and happiness to man, beast, and bird, which cannot be measured in gold and silver, nor enumerated in dollars and cents. In the instances where shelter was provided, Mr. Williams says that, during the past (1853) severe season, both apple and peach-trees were loaded with fruit. He alludes, as do many of the writers, to the *Horticulturist*, and says, an article which appeared in it by the late editor, was "not only worth the price of a volume, but a dozen, to any man who has an acre of land."

There is an important suggestion in a former number of this journal regarding the planting of trees on the sides of railroads, which, where the land owned by the companies is not of sufficient breadth, might be difficult in practice, but on the central Illinois routes the space set apart for the company's use is fully one hundred feet wide, offering the best possible site for the growth of timber where it is wanted, and offering a prospect of wood for repairs of the route, as well as timber for the wants of settlers; thereby increasing the freight of the road, to say nothing of the profits, which may be set down at an interest on a thousand times the cost of the planting.

The vine is strongly recommended as a fruit for prairie land, as is the strawberry, pears, and especially apples; the summer Bergamot pear, perhaps a local variety, but a common one, is hardy and productive.

The Bartlett pear is said to be short-lived. Among apples recommended are Early Harvest, Sweet June, Early Scarlet Bough, Red Astrachan, Rambo, Fall Pippin, Fallen Walder, Rhode Island Greening, Roxbury Russet, White and Yellow Belleflower, Wine Sap, Willow Twig, and Newtown Pippin.

Incidentally, we learn here and there much regarding the State; for instance, Dr. Le Barron says: "Birds are much less numerous than in the Eastern States, from the scarcity of mature orchards and timbered lands in a newly-settled and prairie country." Among the most interesting facts are those regarding the culture of flax; a movement for the manufacture of linen is now going on in this country, that threatens, ere long, to supply an article for which we have annually paid millions to foreigners. This movement is connected with the newly-invented machinery for spinning flax; respecting this, and the raising of the raw material in the West, the volume gives an account that we would ask the agricultural journals of the country to disseminate. The culture is, perhaps, the most profitable yet attempted, and the demand is unlimited.

In conclusion, we wish every State in the Union, including our own, had a Dr. Kennicott.

PLANTING AND PRUNING.

BY B—, NEW JERSEY.

J. JAY SMITH: If we could only properly recollect in the right time what has been written on some subjects, as, for instance, on horticulture, we should not have to run over volumes to have a question settled just when we are about to apply it to practice; the matter is so great, shall I say diluted, that hints are forgotten; all previous experience is overlooked, and how often we find writers stating only a few experiments of their own limited practice.

"Facts and few words," are my motto. If you think my remarks deserving a corner in your invaluable journal, I shall venture to attempt a *resumé* of old and new notions on the subjects of planting and pruning, from the time of Laquintyne, Duhamel, Scobold, &c., down to our present time, and I shall try to state by my own experience what seems to me most applicable to this climate and latitude.

It is a settled fact that the habits of some fruit trees, and many other plants, are different here from what they are in Europe; some, which do well on the old continent, will not succeed here. For instance, the common Erica, which spontaneously covers the barren and waste grounds in Scotland, Belgium, and Germany,

and all the north, cannot live here. The European grapes cannot succeed in the open air even on our southern walls. The gooseberry, so much prized abroad, is here an inferior fruit, with a thick skin, and is often unproductive; marked differences prevail even among the species best adapted to both climates, as, for instance, the apple, pear, and cherry. The raspberries, which stand the English winters with perfect impunity, must be protected here during our keen winter blasts. The chestnut, which proves so hardy here as to brave 10 and 15° below zero, is a poor tree in Northern France and Belgium, always blighted by frost or other causes, and dying piecemeal after a limited existence.

Some fruits, as the peach, the currant, and the strawberry, are superior in America, or fully equal to the best varieties in the most favored zones of Europe, and if it were not for that unconquerable curculio, plums, apricots, and nectarines would prove as luscious and delicate as on any spot of our globe.

Hence the necessity of applying different rules to the treatment of the same species of fruits, as well in planting as the further management of the tree. It is well known that a tree, freshly taken from the nursery and exposed for some hours to the influence of a fine autumn day, is materially injured, owing, perhaps, to the absorbent action of our atmosphere; while in Europe, in a more damp medium, the same tree can be left exposed for days to all influences, frost excepted, with comparative impunity.

The long and forever controverted question, "When shall we plant?" naturally takes its place in the outset of these remarks.

And first, let it be well understood, that the first condition required to replant a tree with success, is that *it be taken up with proper care*. All mashed, broken, or stripped roots are injurious when left, and ought to be cut with a sharp knife; the epiderm or bark of the root seems not to heal up so readily as the bark of the tree; hence the necessity of leaving nothing but *sound roots* with a clean section or cutting, if cut at all, at the end; very small fibres or roots are of no use, according to Van Mons, when the tree has not been freshly taken up, and after a long transportation; they are soon deprived of all vitality, and are drawbacks instead of useful agents.

Now, when shall we plant, supposing we have the choice and everything at hand? Much depends on the weather, and the condition of the soil. It is always better to have a comparatively dry soil and fine weather, except in the case of plants with wiry roots, such as those of the hemlocks, &c. &c. I have been in the habit for years of preparing the holes as early as possible, either in late summer or early fall. I have two objects in view. First, the sods or detritus, mixed with the soil which is put in the holes after the bad subsoil, rock, ore, or stiff clay has been removed, have time to undergo a fermentation, injurious to the roots, when it takes place directly after planting; and, secondly, my heap of reserved good soil next to the holes, is mellow and best fitted to fall between the roots, and fill up all the intervening spaces by gently shaking the tree when it is well covered with fine soil. The shaking must be quick and short, not lifting the

tree more than two inches ; cover well, and let the fall rains do their work ; the tree is safe so far.

As for the proper time to plant I have found by experience that the best is the last days of October, or the first part of November, for those who have only a limited number of trees to place. It is true that we can remove trees as soon as the leaves show the first signs of decay, and often very successfully. It is also true that those taken up the first week in October, when properly root-pared and pruned, send out small rootlets, or at least make a fine seam on the edge of every clean wound, of course ready to start, and showing a protracted vitality carried through the trying process ; but I always found that *provoking* the sap in that manner, and so early, and taking up and pruning always does, more or less, gives rise to a new process of vegetation *out of season*, and interferes with the general laws of the organism of the tree. This vegetation, when checked gradually only, enfeebles the tree ; but if stopped suddenly by a keen frost of 16° or 17° or 20° , almost always injures the bark and inner wood in an irreparable way ; the same thing as with the *buddings* starting in August, a fact well known by every nurseryman.

On the other hand, if we plant too late in autumn, the soil is not often well fitted and in good mellow condition ; the roots having no active vitality left, do not surround themselves with that non-conducting medium which is well known to exist around the living and sound root, to preserve it from the injurious and lasting winter soaking. Now, as far as my own experience goes, if I had only *a very few trees* to plant, and particularly if I had these close at hand, I should let them stand in the nursery till the winter is fairly over, and as soon as the sap is about to start, say in this climate in March or early in April, I should take them up carefully, pare and prune moderately, and plant them at once. The healing process would take place immediately, and the tree would have gone through the winter trials surrounded by all the protections which Nature makes for it when left undisturbed. The objection is, naturally, that we can scarcely get choice trees in the nurseries in March ; that the season is very short and uncertain, and the soil often very wet.

Now comes the question, Shall we take off a few or many branches or limbs, or leave all those which are not injured ? In Paris, of late, a system has been eagerly advocated, which was founded on the theory, that many branches and leaves call for a greater amount of sap, and make, as they termed it, *a demand on the roots*, prompting these to display more activity, and, of course, shooting out more fibres. But as we can never take up a tree of much size without disturbing the roots, and as we have to suppress some injured or useless ones, the economy between the roots and upper limbs is disturbed, and the tree suffers. I have seen those trees taken up in the Jardin du Luxembourg, Jardin des Plantes, and elsewhere, and they showed for a long time afterwards, signs of weakness and dying limbs, the result of that disturbance in their general organism. If it is not safe to cut away thick stout limbs in the process of transplanting, it is a worse policy

to leave all those limbs, which, by the suppression of corresponding roots, cannot get their supply of sap; and, as there cannot be a stop in Nature's laws and in the natural process of vegetation, sickness and atrophy are the result of that rather overrated system. I have always found a good result in moderate pruning of limbs, and, of course, in a more restrained and equal distribution of the sap than in no pruning at all. A planted tree must start readily, handsomely, or it is a lost tree; for, years afterwards, the *principium morbidum*, the hidden death-stroke will come up and show itself outside.

If I have to remove a stout limb, destroying the harmony of a fine tree, I cut it some inches from its base so as not to make a large wound immediately *on the main body*; next year it will be time enough, and just the proper time, to cut it close, the tree having regained all its strength and its healing power.

And as to the practice of watering the planted tree, or, as it is termed, to *puddle* it, this will answer well enough in silicious soil, but in clay or any stiff soil, it will result in casting the roots as in a mould of baked earth, which, if copious rains do not come in time, will prevent the shooting out (or formation) of the delicate fibres or rootlets. I do not often recur to this method, unless I have to plant *in very wet* soil, and in a hurry; for then it is better to have a thorough *puddle* than lumps that will not fill up the interstices.

It is good, also, to cover the foot of the planted trees with any kind of brush, leaves, withered herbs, decayed straw, or even stable manure, if not rich nor fresh; for, I do not like fresh manure near the newly-planted tree. This ought to be done after a good copious shower has settled the roots, and immediately before the heavy frost sets in. If you do it too early, you often make a good recess and wintering place for bugs, worms, mice, &c., which will creep and flock together under this protection. If you have no leaves, or salt hay at hand, cover with stones, and let these remain on the foot of the tree all the next spring and summer. Old planted trees can be mulched with good manure at the same time, say late in October, or beginning of November, even after the first slight frost; the manure ought to be placed in a circle at least half a foot from the *body* of the tree, *where* it does no good, rather producing injury; and extending in a radius of three feet circular. Let us always mind that the tree does not take up its food close to its body, but far, far off, with its spongioles or small roots, its natural suckers; a thick root is of no use save as a pipe or channel to receive the nutritious sap brought from the extremities.

Never plant too deep; more trees are killed by that old erroneous process than by any other cause. Nature will show you what you have to do. Let the bark remain bark; if you force it below the surface, you will make it to go over to *root bark*, entirely different from the *upper bark*, which is at least a tedious, if not a dangerous process. Allow something in freshly made holes for the settling or sinking of the tree; if the roots remain covered the first year by a protection of a slight mound, brush, or stones, you can hardly plant too shallow.

In making your holes, kill every worm, bug, and, in general, every insect that

you find; after a year's growth, soap-suds thrown occasionally on the foot of the tree in winter or *early* spring, will destroy all those insects which have gathered beneath the *mulch*, or around the trees where insects generally creep for protection, even if not mulched.

Although stone-fruit trees, plums, peaches, apricots, &c., might be planted successfully in the fall, I find it better to plant these as early in spring as the soil will allow. Holes made for them before winter will afford dry earth enough on their edge (in one heap, for the soil must never be scattered around, and sods separated from loose soil) to allow of early planting. The hole being frozen is better than it was in the fall, and the sods, with which the hole (as said before) is at least half filled, will be all *reduced*; harmless to the roots because all fermentation is gone, and affording a good supply of food through the summer. If you have no convenient soil nor time, get pure sand and plant your tree in it, just enough to surround the roots; the spongioles will find more easily their way through that light porous medium, and get all their proper food in the richer soil in due time; for peach-trees, especially, I always *succeeded best in loamy soils*, by planting the tree in *five or six spadeful* of yellow or fine ordinary gravel. They start without stopping to look out for a proper supply, which cannot readily be found in clay soils, and they never show gum and disease as peach-trees so often do the first year when planted in too rich or clayey soils. As a general rule, in rich soils, the more sand you bring around the peach or plum-tree the better it is.

These remarks, Mr. Editor, have taken more room than I expected at first. If you want my opinion, and those of the best authors, combined, in regard to *pruning properly*, for an established tree, I shall try to compress those remarks in a narrower space.

[The above is sensible and to the point; the author has had much experience, and his observations, at home and abroad, evince a clear understanding of his subject. We shall be pleased to receive his remarks on pruning at his earliest convenience.—Ed.]

KEIM APPLE.*

Size, below medium, 2 inches long by 2½ broad; *form*, roundish, inclining to conical; *skin*, fair, pale yellow, waxen; *stem*, long, slender, 1 inch long by ⅓ thick, inserted in a wide, moderately deep cavity; *calyx*, small, closed, set in a shallow, plaited basin; *cone*, medium; *seed*, brown, slender, ⅓ of an inch long, ⅓ broad, ⅓ thick; *flesh*, white, tender; *flavor*, mild, pleasant; *quality*, "very good;" *maturity*, January to March.

* See Frontispiece.

THE APPLE SCALE, OR BARK LOUSE.

BY A. G. HANFORD, WAUKESHA, WISCONSIN.



HIS insect is attracting much interest among western orchardists. Cultivators understand the nature and extent of its depredations, and the difficulty of ridding their trees of this pest. All are anxious to find a sure remedy of easy application. Spirited controversies are carried on over the different remedies proposed, some denouncing those which do not at once accord with their own or some long established theory.

Facts are facts, in spite of regularly received orthodox opinions; now and then new theories must be wrought out to suit these unyielding facts. The intelligent progressive orchardist, will try, with all proper caution, such remedies as seem feasible and practicable—try them thoroughly, and hold fast to those which prove good, though they conflict with preconceived notions. An interesting account of this insect was given in the November No. of the *Horticulturist*. From some of the statements of "R.," however, my own observations would lead to different conclusions. I have never been able to discover more than one brood in a year, which in this latitude hatches about the first of June. The scale is never found on the new growth, made after about the middle of June.

Though quite active for a short period, probably but for a day or two, I do not think this insect journeys far from the place of its birth. Being exceedingly light, it is liable to be blown to different parts of the tree, or to other trees; hence arises the idea that it "crawls all over the tree." In from one to three days it becomes stationary, where it remains, feeding upon the sap of the growing tree, till it attains full size. Passing through its different stages, at the end of the year we find it full of life, ready to increase itself manifold. From these few parents spring a great army of depredators, going on to increase in like ratio each succeeding season.

Neglected trees of stunted growth, and more especially those planted on wet, badly drained land, are most liable to infection from this destructive insect. The preventive will readily suggest itself; drain the land and thoroughly cultivate the soil. Where the trees are not badly affected, this treatment alone will usually rid them of these pests.

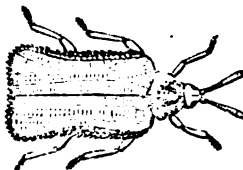
I have seen whole orchards, in which the trees seemed entirely covered with these scales. No remedy, to my knowledge, has proved so efficacious or more harmless than "Tar and Linseed oil," which I have previously recommended through different agricultural journals. Equal parts are to be mixed thoroughly

by heating; when cool or just warm enough to spread, a very thin coat is to be applied with a brush to all the affected parts. An advantage of this remedy is, that it may be applied at a leisure time, late winter or early spring, when the tree is in a state of rest; to facilitate the operation, it will be well to first thoroughly prune the tree. This composition forms a varnish, which readily cracks when the sap begins to flow and the bark to expand, admitting the air to the bark. In the course of the summer it peels off, carrying the scales—now dead—with it, and leaving a clean surface. Notwithstanding this treatment conflicts with long received opinions, trees thus treated have not only survived, but have grown—this the second season—well, and borne good crops of fruit. The wash proposed by Dr. Harris, or any strong caustic application made while the insect is yet young, will doubtless be effectual in destroying them. The objection to the use of these remedies is, that to be of sufficient strength to kill the insect, it will also destroy the foliage, and thus seriously injure the tree; and then, too, as the insects do not all hatch out at once, more than one application is necessary, or enough are left to soon cover the tree again.

CONE OF ABIES NOBILIS.*

WE present this month the portrait of the cone of *Abies nobilis*, or noble silver fir. This magnificent tree was introduced to Britain by the lamented Douglas, in 1831, who discovered it on the mountains of Northern California, and which, above all others, excited his admiration. Judging from young specimens, it is likely to display similar beauty in a cultivated state. In its native forests it attains a height of 180 feet, the branches spread horizontally, and are produced with the same uniformity of arrangement as those of the *Araucaria excelsa*, or Norfolk Island pine. The density and fine incurvature of its foliage divest the tree of that stiffness which characterizes most of the tribe to which it belongs, and impart much of that agreeable gracefulness so well defined in the Deodar cedar and Hemlock spruce. It is perfectly hardy in our climate, and should be one of the first trees planted as a single specimen on a lawn. It is the *Picea nobilis* of Loudon (whose arrangement of the pine family is now generally followed), and the *Pinus nobilis* of Douglas.

* See Frontispiece.



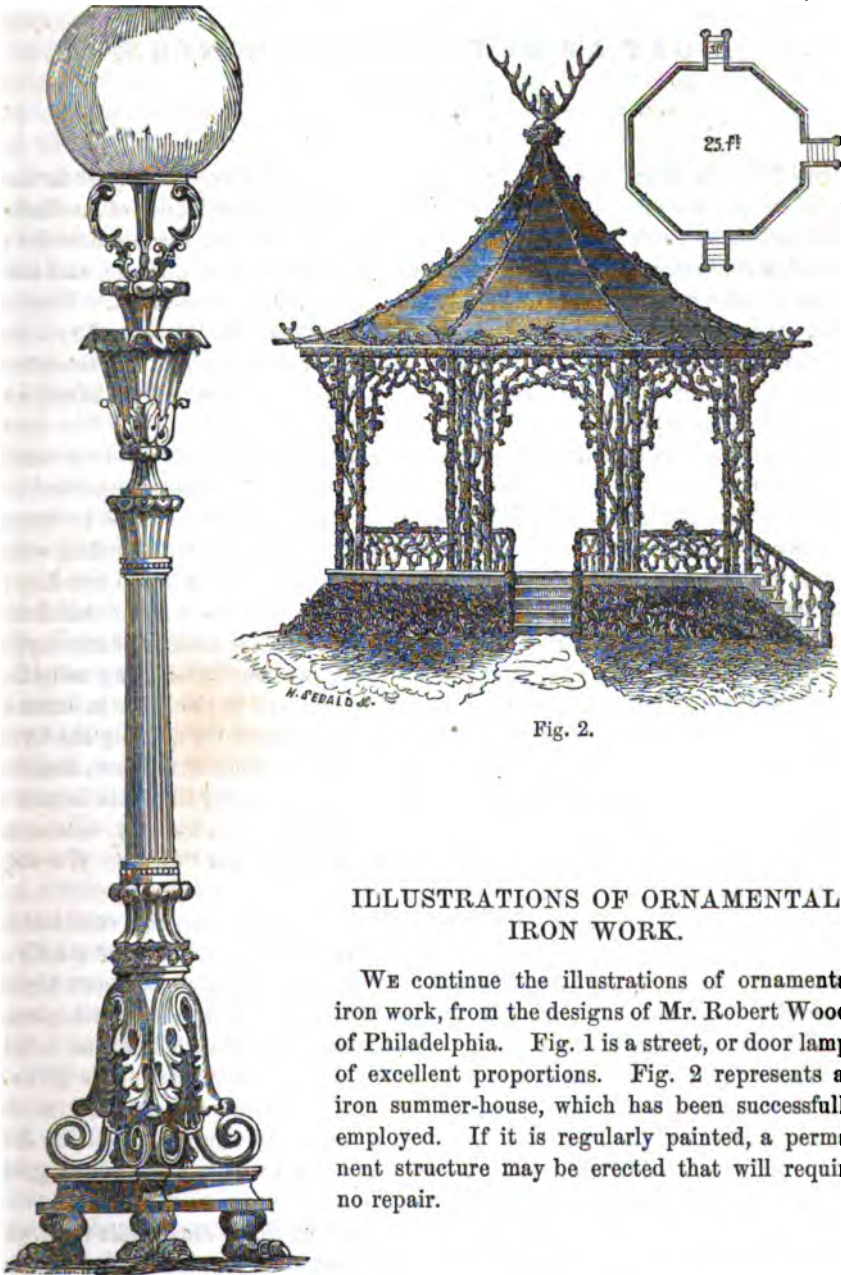


Fig. 2.

ILLUSTRATIONS OF ORNAMENTAL IRON WORK.

WE continue the illustrations of ornamental iron work, from the designs of Mr. Robert Wood, of Philadelphia. Fig. 1 is a street, or door lamp, of excellent proportions. Fig. 2 represents an iron summer-house, which has been successfully employed. If it is regularly painted, a permanent structure may be erected that will require no repair.

Fig. 1.

A DAY AT KEW GARDENS, LONDON.

No. III. (CONCLUDED.)

BY THE EDITOR.

LEAVING the Museum, our little party repaired to the Conservatory, sometimes called the architectural Greenhouse; it is filled with a rich collection of Australian trees and shrubs, chiefly Myrtacæ, Leguminosæ, Proteacæ; the latter family so named in consequence of the very varied character of the stems, leaves, and inflorescence, yet agreeing in the essential character of the flowers and fruit. They are handsome evergreen shrubs, or small trees, of which the Banksias and Dryandras are the most remarkable. Their foliage, though harsh and rigid, has something of the Fern character; the flowers of the Banksias are arranged in bunches or tufts resembling a bottle-brush.

The next object was the Orangery, which is now mainly devoted to tender Pines, many of which are of great rarity and value; the noblest specimen in Europe of the Norfolk Island Pine, *Araucaria excelsa*, is placed here in winter. This tree is remarkable for its beautifully drooping and graceful branches, which almost vie with ostrich-plumes; small specimens are great favorites in our American conservatories, where every one who sees it regrets its want of hardiness. *Araucaria Bidwilli* has cones as large as a child's head; the seeds of it are eagerly sought after as an article of food by the aborigines of Australia. The collection here is necessarily miscellaneous; the plants are removed to the lawns in summer, and attract the eye of every one at all observant of trees. On quitting the Orangery, you encounter, alternating with the large beds, two lines of Deodars, designed for a long avenue of this stately and graceful tree; secondary lines are formed of Junipers, Cypressess, and other allied plants. We must not, however, detain our readers with trees, or we should never get through with our "Day." We must proceed to the

Great Palm House, or *Stove*, which is the glory of the gardens, constituting the largest iron and glass house in the world previous to the erection of the Crystal Palace. The extent of glass for covering this vast building is about 45,000 square feet; the ribs are inserted in enormous blocks of Cornish granite, placed in solid concrete. A substantial iron gallery runs round the whole at the height of thirty feet from the floor, ascended by flights of spiral staircases; this gives a fine view of the plants from above, and brings the spectator on a level with the summits of many of the loftiest palms. The whole of the iron of these stairs, &c., is covered with tropical vines in full bloom; and this to us was one of the great beauties of the house.

But those "Princes of the vegetable kingdom," as Sir William calls them, the Palms, constitute the splendid and striking feature of the vast area; two of the loftiest kinds of cocoa-nut afford good examples of one group of palms

with pinnated leaves, divided like the plumes of a feather. The two stoutest Palms are the West Indian or Jamaica Fan-palms, and are a good example of the second group, having palmate or fan-shaped leaves. So enormous are these specimens that each plant, with its earth and tub, are calculated to weigh 17 tons. Here, too, is the Date-Palm, producing the dates of commerce and of Scripture; also the plant producing the Palm-oil, now of so much importance. Sir William took particular pleasure in exhibiting to us from the gallery, the *Plectoxoma elongata*, presented by Dr. Willich, which, with its luxuriant foliage and very curious spring-stem, has the most singular mode of getting up in the world. The spines are digitate, or united together like the fingers of the hands, or still more resembling the wonderful conformation of the foot of the mole; its leaves are of vast length, and pinnated like the shafts of a feather, so long, indeed, that they, as well as the slender stem, need support. Nature has come to the rescue; the main stalk of the leaf extends *at the end* into a lengthened slender tail, *armed all along with strong deflexed hooks*, by means of which, while running up among the stems of other trees and plants, and catching hold of their branches, the foliage and stem are propped in every position. In the young plant, these spines are upright, and lie flat against the stalk of the leaf, not becoming reflexed till they are called forth by the wants of the plant. Some bamboos have grown to the surprising height of 68 feet in 5 months; this includes a long period in their first stage, in which they make little or no progress, but after they have attained a certain altitude they rush up at the rate of 2, and often 8 feet a day.

There was first exhibited the tree of the Vegetable-Ivory-Palm, from the nuts of which so many ornamental things are now turned. It comes from Magdalena, New Grenada; it is named *Phytelephas macrocarpa*. The Wax-Palm, *Ceroxylon audicola*, was discovered by Humboldt in the Andes of New Grenada; the full-grown stem is covered with a waxy substance, having the same properties as beeswax. The visitor in London will observe that the streets are swept by a machine, with a brush of remarkable consistence. The tree which produces it is seen here, the *Attalea fumifera*; the coarse fibre of this and others separates from the base of the leaves.

The whole house is one vast magazine of tropical novelties, of which we can only mention one or two more. The Banana bears its curious fruit in abundance here, a single cluster often weighing 70 or 80 pounds. Perhaps the most remarkable object to the uninitiated will be found in the South African Elephant's Foot, *Testudinaria elephantipes*, so named from its resemblance, in the external surface of the gigantic root-stock, to the back of a tortoise, or to the foot of an elephant. Take it altogether, a visit to the Palm House at Kew will afford the visitor who has never been in the tropics the greatest surprise and pleasure. We have a good example of some palms, as well as the Elephant's Foot, in Philadelphia, in the house built for the purpose by James Dundas, Esq., which will afford "an epitome view," and should not be neglected by amateurs who visit our city.

In the "Succulent House," we found a great display of the *Crassula* tribe, and

Mesembryanthemums; many of the latter are remarkable for the resemblance in their foliage to the jaws of animals, whence they are appropriately named *felinum*, *tigrinum*, *caninum*, &c. The capsules of others have the same hygrometric property as the entire plant of the famous Rose of Jericho, or the hygrometric Club-Moss, opening in wet weather into segments, resembling the petals of a flower, and closing in dry; a beautiful provision of nature, by which the seeds sow themselves at the only season suited, in those hot sandy deserts, to their germination; after being gathered, they long retain this property, and may be made to open or shut, according as they are placed in a wet or dry atmosphere.

The Orchid house contains the specimens most in favor with cultivators at this time; the prices paid for them are sometimes almost fabulous. There is not a day in the year when some of them are not in blossom. Many are here seen attached to branches of wood, or placed in wire baskets, with moss and bark, or planted in the husks of cocoa-nuts, and suspended from the rafters, living, as it were, and flourishing on heat and moisture; the *Vanilla*, *Vanilla aromatica*, is one of these tropical Orchideæ. Its long narrow pods afford the fragrant vanilla of commerce; it is from the hot parts of South America, being exported from Vera Cruz to the amount of 40,000 dollars annually. The King Plant of the Cingalese, *Anæctochilus setaceus*, as rare as it is beautiful, is here in perfection; we saw it, too, lately in the stove of B. A. Fahnestock, Esq., Philadelphia; the foliage closely resembles brown-greenish velvet, with the most exquisite network of gold. Other allied plants are green, reticulated, and spotted with white.

In the Tropical Aquarium is exhibited a group of different plants especially characterized by the varied coloring or marking of the foliage, often called "painted plants;" among them, the Caricature Plant, *Graptophyllum hortense*, many of the spots of whose leaves bear a very accurate resemblance to the human face, more or less divine.—The fragrant lemon-grass will be remarked, and Sir William tells you it was a favorite tea with old Queen Charlotte; and he observes that the present queen takes an especial interest in these gardens. He lately sent her a basket of Osage oranges as a curiosity; "but," said the queen to him, with a pat of her fan, "how could you send such fruit for my table? Why, the lady-in-waiting cut one, and handed it to me; but really it was uneatable!" They do not ripen in England, and were an especial novelty there.

In the "Hardy Aquarium," among the greatest curiosities, is the celebrated Tussock-Grass of the Falkland Islands, *Dactylus cespitosa*; it is considered one of the most valuable coarse agricultural grasses, and, having braved the droughts and cold, and heat of England for several years, will be naturalized. It is slow in growth, and slower to form its great tussocks; they and the mass of foliage constitute thickets where wild cattle and more wild runaway sailors find shelter and protection, and both obtain food. Two sailors subsisted some time on the raw young shoots of this grass, which are, moreover, boiled like asparagus; vicinity to the sea, an equable climate, and cool atmosphere are deemed essential to its perfect success.

In the Aloe House, there is much to see and wonder at, especially the two lofty specimens of the Old Man's Head Cactus (or *Cereus senilis*), 14 feet high; it is called *Senilis* from the quantity of old wiry gray hair which crowns the summit. There is reason to believe, from its slowness of growth, and the reports of Mexicans, that these old fellows are hundreds, probably a thousand years old. No perceptible increase of size has taken place in the long period of their residence at Kew; there they stand, two sturdy pillars, and there they may stand for centuries.

Our English lady friend now exhibited marks of extreme fatigue. We made an effort, however, to reach the Victoria Regia House; but nature could no longer support her frame, and down on her knees she fell, a curious figure, with her parasol expanded. Sir William was truly polite, waited for her to rest; and we then proceeded, saw a lily bloom, and somewhere in a tropical fern-house we gazed at other things; pencil, however, could no longer do its duty, and we only remember the Great Stag's Horn Fern. It grows in Australia on the trunks of trees, but here, from the surface of a plank against the wall; the young stage of it is a small green leaf or frond, lying flat against the wood. It thickens with every succeeding growth of leaf; and this addition is alternately right and left over the older leaves, which die and contribute to the nourishment of the plant. A second plant was purchased for twenty-five guineas for Syon House.

Though our notes are not exhausted, we must here close our "Day at Kew" with a mere allusion to the great extent and value of the newly planted Arboretum, which promises to be the finest the world ever saw. We shall be paid for our labor if we have imbued one reader with an impression of the vastness, of the variety, and the value of the products of the vegetable kingdom, every possible specimen of which may be here examined.

THE PEA BUG AND ITS ALLIES.

BY WM. N. WHITE, ATHENS, GA.

SEED peas raised in the United States are found, on opening, more or less infested with this insect, and especially is this the case with the garden pea at the South. Another species of the same genus (*Bruchus*) attacks the kidney bean and the cow pea, and is still more destructive. The Pea Bug seldom attacks the germ, but the bean is all eaten except the outer coat. The insect found in the bean is much smaller than the Pea Bug, but several occupying one seed. Clover seed I believe is sometimes rendered worthless by an insect similar to these.

With the pea and bean bugs I have little trouble; when gathered and *thoroughly*

dried, I put them in perfectly tight bottles, or earthen jugs, according to the quantity I wish to save for seed. In these I put a teaspoonful of spirits of turpentine or a lump of camphor, but I prefer the former, and cork them tightly. The name of the variety written on a card is fastened to the bottle by a piece of twine. When I wish to plant them, I find them on opening perfectly sound. The turpentine effluvia is fatal to the insect. If I wished to preserve a larger quantity, I should put them in camphene or turpentine casks, from which the contents had been recently drawn, and seal them tightly. This for seed. For the table, instead of the above mode, the beans are placed when dry in a brick oven, in shallow pans; after the bread is withdrawn, there is heat enough to kill the egg without injuring the quality of the beans.

OUR NATIVE WINES.

BY B. BUCHANAN, CINCINNATI, OHIO.

AN opinion prevails in some of the eastern cities—doubtless encouraged by the importers of foreign wines—that our *native wines* are gradually falling into disuse. I am happy to say that this opinion is entirely erroneous. The demand for the still wines is now greater than ever, and for the sparkling wines, equal to any period previous. The financial troubles of last year somewhat interrupted the consumption of sparkling wines, but only to a small extent.

We have the gratification here of knowing that our own wines are rapidly displacing the foreign, and that the people are supplied with purer wines from our own soil, than many of the mixtures from abroad prove to be.

This is as it should be; why should we send our money thousands of miles abroad, to purchase an inferior article to what we can produce at home. There is no American spirit in that policy.

The vintage of 1855 was a light one; the average per acre not exceeding 150 gallons. We have in this vicinity about 1000 acres in bearing, which will yield 150,000 gallons. Half of this crop has been sold already, at prices ranging from 90 cents to \$1 10 per gallon from the press. Part of it intended for sparkling wines, and part for still. Ten thousand gallons were purchased for the St. Louis market, the grape crop in Missouri having proved to be almost a total failure.

Our still wines sell here at \$6 to \$7 per dozen, and the sparkling at \$11 to \$12. Good still wines can be purchased by the cask at \$1 25 to \$1 50 per gallon, after the second fermentation, and when fit for bottling.

The introduction of pure native wines will do more in aid of the temperance cause than all the stringent "Maine Laws" that can be enacted; our experience thus far points to this remedy with great confidence.

GOOD AND BAD PRUNING.

THE annexed wood-cuts will explain the effects of judicious and injudicious pruning better than a lengthened disquisition. Fig. 1 represents a tree of thirty years' growth, which has been regularly and properly pruned. Fig. 2, a tree of the same age, which has been neglected as to pruning during its early growth, and has now been pruned in a way too frequently practised—namely, by sawing and lopping off the branches, after they have attained a large size. Fig. 3 shows the

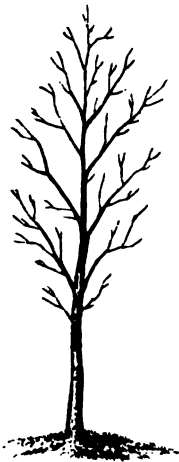


Fig. 1.

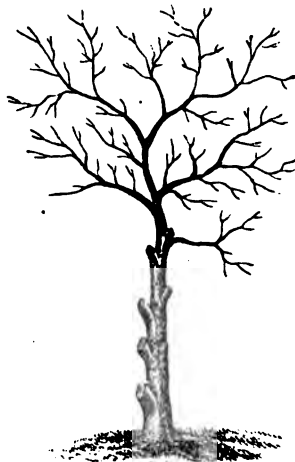


Fig. 2.



Fig. 3.

bad consequences of neglecting early pruning, in the case of a plank cut from an ash-tree which had been pruned by lopping off the large branches many years before it was felled. The cuts in this case had been made several inches from the bole, and the branches being very large, the stumps left had become rotten. The enlargement of the trunk had not, however, been stopped, for the new wood had covered over all the haggled parts, in some places to several inches thick. Yet the effects of the previous exposure to the action of the weather, by injudicious pruning, is strikingly marked by the decayed state of the parts connected with the branches which had been amputated; progressive pruning of deciduous trees, commenced while they are young, if it is to be practised at all, will produce no such blemishes when the timber is cut up. In a school for gardeners, or indeed in every school, these effects should be demonstrated by examples of bad pruning; the best collection of such is to be found in the economic museum of Sir William Hooker's foundation at Kew Gardens, but it would be very easy to collect specimens for exhibition at horticultural societies and State or county fairs.

FLOWERS AND BOTANICAL NOTES.

BY W. S. COLEMAN.

OUR group is composed of some of the more remarkable forms of leaves, being a selection from what the gardener calls "foliage plants," or plants which depend rather on their leaves than their flowers for their beauty or interest; in which points many of them are hardly excelled by any tenants of the conservatory, besides possessing the great advantage of remaining in equal perfection all the year through. Some of these rival in the richness of their tints the brightest flowers, such as *Dracæna*, *Caladium*, *Calathea*, and *Cissus discolor*. We figure the leaves of the last mentioned; but no engraving can show the beautiful variety and gradation on the rich velvet of its upper surface. The centre rib and principal veins are marked by various shades of purple and black; between the veins are silvery patches of white, and towards the edges the purple softens off into a lovely subdued green, forming altogether one of the most harmonious little pieces of coloring with which Nature indulges us.

The pearly sonnerila (*Sonnerila margaritacea*) is one of the most charming of recent introductions. It has glossy green leaves, studded over with lustrous pearl-like spots, and in the summer is ornamented with a spike of pink flowers of much beauty.

The curious plants from Java, called *Anæctochilus*, well deserve a place in any collection where sufficient heat is maintained. One of these plants at first sight gives the idea of a number of strange insects congregated on the ground, each leaf being so marked and shaped as to resemble the closed wings of a large beetle or moth—blackish green or brown,—with golden or silvery veins, being the usual coloring. *Anæctochilus setaceus* is the species figured. (See page 118.)

Several species of club-moss—half moss, half fern-like feathery little plants—are very ornamental, for edging the aquarium, and for other purposes where their fresh bright green is acceptable. We figure the creeping-rooted club-moss (*Lycopodium stoloniferum*).

There are several genera of plants bearing pitcher-like appendages to their leaves—that best known being the genus *Nepenthes*, the old pitcher-plants; but there is a little New Holland bog-plant, the Australian pitcher-plant (*Cephalotus follicularis*), of comparatively recent introduction, which, though of very small size, is equal in interest to any of the others. It produces a circle of pouches or pitchers of curious construction, resting on the ground, each being provided with a membranous lid; from the centre rises a spike of small white flowers. To the list of plants remarkable for their foliage we can now add one—perhaps the greatest curiosity of all—the extraordinary "Lattice plant" (*Ouvirandra fenestralis*), lately brought from Madagascar by a missionary, and now in the possession of Messrs. Veitch. It was figured and described in the *Horticulturist* for February.



Anæctochilus setaceus.
Sonerilla margaritacea.

(123)

Cissus discolor.
Cephalotus follicularis.

Lycopodium stoloniferum.

THE HOLLY.

BY W.

BALTIMORE.

THE *Horticulturist*, of late, has been bringing into public notice one of our brightest and most attractive evergreens, our own holly; with its living green leaves contrasted with its red berries, and, at times, when snow mantles the earth, and the red peeps from under the white cover, what can be prettier!

I have devoted particular attention for some years to this tree. I obtained them from the flat portions of our State, adjacent to the Chesapeake. I removed in March, six years since, half a dozen without any particular care, not even covering the roots, a day elapsing from the time they were dug until they were set in a nursery, on the north side of the barn, where but little sun reached them. All of these died save one of the finest looking, which was removed in a year to its present position on the lawn, where it is much admired, particularly at this season, as it luckily is a bearer of berries. The following autumn, with four boxes, about two feet square, I went into the woods and transplanted four fine hollies, one into each box. Towards spring two died, and in April I carefully took the sides out of the boxes and set out the remaining two, with the earth adhering, on the lawn; one died in the summer, the other still lives and flourishes, though not a berry bearer. Again in August I had a dozen young plants, from six to twelve inches in height, taken from the wood and planted at once, closely in a box. As soon as received, they were planted in the nursery, well watered and mulched; here they remained for three years, and last September six were removed, with balls of earth, and set out on the lawn. I have still four small ones in the nursery, losing only two of the lot; these young plants have grown well for hollies.

In the month of June of last year, I selected ten fine trees, from four to seven feet high, growing on the edge of a thick pine forest, and after trimming the branches where they were out of shape, had the lateral and tap roots carefully cut with a sharp spade, and left the trees just as they stood, intending to remove them last fall, but was prevented from doing so, and will take them up in the spring; by which time, two years having elapsed, they will have formed a mass of fibrous roots, to which the soil will attach itself whilst they are being moved. On examining them a year after they had been thus severely dealt with, I found but one had died. This would appear to be the best method to pursue in moving this tree.

I will hereafter give you my experience with reference to these. Of course, it is very advisable to select such trees for removal from the forest, as have been most exposed to the sun.

I have always been successful with my rose and heliotrope cuttings, made in

July and August. They are set in boxes partially filled with light soil, with an inch and a half of fine sand over the earth—the cuttings are pushed into the sand until they reach the dirt; they are then placed in the shade and well watered; this is repeated whenever the top of the sand *begins* to look dry, and not before. The cuttings should not be set too closely together.

SWEET APPLES.



VERY suggestive subject title to the appreciator of "Apples and milk," waking up delicious memories of the simple good things enjoyed in younger years—perchance forgotten or neglected in later days of more studied epicureanism.

The suitableness and healthfulness of fruit as an article of diet—not as a mere luxurious come-between or after-course, when hunger is appeased and the variety and quantity of food already taken is quite equal to the power of right digestion—is much lauded, highly recommended at the present day.

To such an innovation the veriest gastronomer can scarce object.

Among the *staples* of "fruit as a diet" what more deserving of epicurean encomium than baked sweet apples? Surely it should rank as a standard among appetizing dishes. What an agreeable accompaniment to the farmers' tea-table in harvest time.

And these may be enjoyed the year round, saving an interim of a few months when the smaller garden-fruits are in plenty, and can delightfully atone for their absence.

A fine collection suiting this soil and climate might embrace—"Sweet June" and "Sweet Bough;" "Golden," "Jersey," and "Haskell Sweets;" "Summer Sweet Paradise" and "Autumnal Swaar;" "Bailey," "Tallman," "Ladies," and "Green Sweet"—and you have them from mid August to May, ripening in the order in which they are named.

There are many phases of digestive disarrangement where acids prove so harmful that the invalid is obliged to abstain almost entirely from fruits—then the luxury of a tender juicy sweet apple is readily discovered and appreciated.

Many seem indifferent to all but "sour apples;" they surely cannot know anything about the deliciousness of a really fine dessert sweet apple.

ELSIE —.

CULTIVATION OF LICORICE.

Synonyms.—*Glycyrrhiza glabra*, *Diadelphia decandria*.

BY WM. R. PRINCE, FLUSHING, N. Y.

THE Licorice is one of the most important plants that are destined to be added to American agriculture, and it merits at our hands an early adoption on account of the facility of its culture, its great usefulness for various purposes, and the large profits it yields to the cultivator. When the high priced lands of England are profitably devoted to it, how much more profitable must it prove, where land is plentiful and cheap, and where, above all (as is the case in several of the Western States), the soil is naturally permeable, free from stones, and no manuring required. It is indeed mortifying to American pride to witness the many thousands now paid to Europe for an article like this, so simple in its culture that we ought to be the largest exporters of it, thus adding another item to our *Granary of the World*.

The Licorice is a deep-rooting perennial plant, of the Leguminosæ, the roots creeping to a considerable distance. It has herbaceous stems four to five feet high, with composite dark green leaves.

The flowers, which are blue, come out in axillary spikes during July or August. It has long been extensively cultivated in Spain, and from the commencement of Queen Elizabeth's reign it has been largely grown in various parts of England.

The soil for the Licorice should be a deep sandy loam, or other light soil, and be trenched by the spade, or by a subsoil plough, or by the aid of both, two to two and a half or three feet in depth, and well manured. The light permeable soils of our Western States, which are enriched by nature, are the soils pre-eminently suited to the most profitable culture of this plant.

The propagation is by cuttings of the root, and usually the small side roots are taken for this purpose, and made into cuttings six inches in length. The planting season may be either autumn or spring, as most convenient.

The cuttings should be planted in rows $2\frac{1}{2}$ to 3 feet asunder, and at the distance of 18 inches in the row. During the first season the plants do not attain a height of more than a foot, and the space between the rows may be used to grow onions, lettuce, beans, or similar vegetables. Keep the ground free from weeds, and, after the subordinate crop comes off, hoe and dress it well, when for economy a horse-hoe or cultivator may be used. During the second and third seasons, a crop of vegetables, covering less width than the first may be grown, each year allowing additional space to the increasing stems of the Licorice. Every autumn the haulm should be cut and removed after it becomes withered. As this plant spreads its roots rapidly in every direction, they will form a complete mass, yielding immense crops.

At the end of the third summer's growth, the roots will have increased so as to be taken up, which is usually done by commencing at one side of the field and trenching over the ground. The roots can be immediately sold to the brewers, druggists, and other consumers and venders; or they may be preserved in sand till wanted for use. If, however, they are intended for transportation, they should be dried and tied in bundles.

Licorice is used very extensively in brewing porter, and in medicinal, and various other preparations, where saccharine matter of this description is desirable.

WHAT MAKES A DESERT.

BY YARDLEY TAYLOR, VIRGINIA.



IN a late number of the *Southern Planter* is an article, credited to *Hovey's Magazine*, by Wilson Flagg, on "trees—their general character and advantages." The object of the writer appears to have been, to point out the beauties and the advantages of our forest trees, and to encourage their propagation. Too much cannot well be said on this subject; pleasure and profit would be promoted by it, and most of what is said in this essay is well said, but there is one view taken that appears to me to be incorrect. In objecting to the destruction of our forests, the writer says: "The consequence of depriving a country of its wood, is the drying of the soil in about the same proportion; and were a country to be completely deprived of its timber, in the interior of a large continent, it would be converted into a dry desert." This assertion does not appear to be supported by facts. It may be asked, how came the interior of any continent to be covered with timber at all? The earth was formed before vegetation could have grown upon it, and were it even now deprived of timber, would not the same cause again produce it, that produced it at first? All parts of the earth appear to be composed of very near the same inorganic matters, and under the same circumstances would have produced nearly the same results. The rocks and sands of the desert of Sahara, had they been subjected to the same influence of rains and moisture that the more central portions of Africa along the line of the equator have been, there is every reason to suppose would have been equally productive. There are general physical causes, acting over every part of the earth's surface, and these causes, when fairly understood, will account for the varied effects we behold.

Why are the eastern sides of the Andes Mountains in South America covered with a most luxuriant vegetation, and deluged at certain seasons with rain, while

in the same latitude on the western side of the same mountains it never rains, and vegetation can only be promoted by irrigation.

The researches of Herndon and Gibbons, in their exploration of the Amazon River of South America, fully explain this phenomenon. The tropical current of air, flowing as it does along the equator, from east to west, carries with it from off the Atlantic large quantities of moisture; this is gradually distributed across the continent, until reaching the barrier of the Andes Mountains, where the accumulated vapors are precipitated in heavy rains, while the air, in passing over those snow clad summits, has every particle of moisture congealed, and precipitated in snow; so that when the air reaches the western side it is entirely deprived of moisture, consequently there can be no rain there. In some parts of the earth, the winds blow in one direction for six months of the year, and in other directions for the other six months. Along the equator the current of air is from east to west, while in the northern temperate zone, the general current is more from west to east. Here, however, there are modifying influences, such as ocean currents, mountain ranges, inland lakes, &c., that prevent any uniform currents of wind; hence we see that variableness in the direction of the current of air so valuable in the temperate regions, making far less deserts in them than where the currents of air are more uniformly in one direction.

It is more than probable that the extremes of heat and cold would be greater in a country deprived of its timber, but it by no means follows that the rains would be less frequent. Dews are heavier in cultivated valleys than in those covered with wood, and there is reason to believe that a larger portion of the rain penetrates the soil in a cultivated field than it would do if in forest. It has often been observed that springs augment in volume as the land around becomes more cleared of its timber.

There is doubtless much yet to learn as to the reasons why some portions of the earth's surface are productive, and others are barren; but it is hardly consistent with what we do know, to assert that to deprive the interior of a continent of its timber would render it "a dry desert." It never could have been anything but a "dry desert," if such would be the effect.



NOTES ON PEARS.

BY JOHN B. EATON, BUFFALO, NEW YORK.

WANT of leisure must be my apology, Mr. Editor, for not sooner responding to your request for more "Notes." The past has been an unfavorable season for testing new varieties, it having been remarkably cool and backward, with a larger proportion of moist weather than usual. All fruits were much later in ripening than ordinarily, and many sorts did not attain their best flavor.

Pears made an enormous growth, and have been generally free from disease and the attacks of insects. The severity of the winter of 1854-5, combined with the cool and moist summer, appeared to have destroyed so many of the latter, that it was quite an uncommon occurrence to find enough of them to cause any serious injury.

The blight has not prevailed to any great extent, that I have observed, having seen but few thus destroyed by it, except in one instance where two rows of *Glout Morceau* (in the nursery) became affected, and nearly every tree for some distance was destroyed. This variety is more liable to the disease than any other that I have tried, except *Colmar d'Aremberg*, and it is rarely that a tree, which has been attacked by it, can be saved.

Several of the varieties noticed by me in a former article, as then fruiting for the first time, have, this season, proved materially different, some of them being much finer than last season, among these are—

Ananas d'Été, larger than before; more inclining to an oval form, and much superior in quality. It is a beautiful pear; not very fine grained, but melting and juicy. "Very good;" ripe about the middle of September.

Beurré Goubault was not as good as last year, being rather watery. I do not think that it will prove to be of much value. Good; middle or last of September.

Bezi de Montigny, rather larger than usual, and "good;" first of November.

Doyenné d'Été, although small, is "very good;" not so large or so highly colored, however, as I had been led to believe; beginning of August.

Dearborn's Seedling is too small, and too apt to be insipid to be entitled to much consideration. I scarcely think it worth cultivating.

Dumortier was, this season, of nearly medium size, and really "good;" beginning of November.

Easter Buerré commenced ripening in November, with most of our winter pears. A few specimens are, however, still in tolerable preservation, but will not probably last beyond the middle of January. I have yet seen no indications of its being "difficult to ripen."

Glout Morceau is, in appearance, very fine this year, but I have not yet discovered an eatable specimen. They are without flavor, and inclined to decay.

Gray Doyenné, not so good as it should be, from what cause I cannot tell.

Le Curté, very large, and ripe in November; but entirely destitute of flavor, and quite coarse.

Oswego Beurré is a very handsome russet pear; but I have, so far, found it quite acid and disagreeable; middle of November.

Stevens's Genesee, although large and handsome, did not ripen well, and some specimens rotted at the core. I have heard from several quarters that it has, for two or three seasons past, been much affected with this same rotting. If it should continue to do so, it will soon lose its high reputation.

Seckel, on pear stock, was very small, and not so high flavored as usual. On quince, very large and very fine.

St. Michael Archangel does not come up to its reputation. It is, so far, quite indifferent; middle of November.

Suzette de Bavay has done better than usual. Some of the specimens were of nearly medium size, and although rather coarse, juicy, sweet, and good; but very many are so small as to be quite worthless. It has been in eating since about the first of December, and will apparently keep for some time yet.

White Doyenné has been, this season, more severely affected with the spotting and cracking to which it is so liable at the eastward, than I have ever known it. Fine specimens were really scarce, almost all being more or less injured. A large quantity of fruit has been utterly destroyed; much that, when gathered, appeared nearly sound, falling a prey to the bitter rot when approaching the period of maturity.

Winter Nelis was finer than I ever before saw it; quite large, and well colored. It was ripe in November, and did not keep long.

Among the varieties, which have fruited with us the past season for the first time, were the following:—

Belle Caennaise. A medium-sized, dull, green fruit; sweet, but rather coarse and indifferent. Middle of November.

Bezi d'Esperen. Rather large; irregularly formed; dull greenish-yellow, juicy and sweet; but wanting flavor. Last of October.

Beurré de Capiaumont. Small, russeted, melting, subacid, and very good. Last of October.

Beurré Superfin. Large, dull yellow, melting, juicy, subacid, and very good. First of October. This fruited once before, but being blown off the tree, did not mature. It is evidently a fine pear.

Bonne des Zees. A large, dull-looking fruit, and wanting in flavor and juice. Middle of November. A tremendous bearer; but falls far below its eastern reputation.

Oushing. Small and worthless.

Duchesse de Berri. Small, a little coarse-grained, melting, very juicy, sweet, and rich. Very good. Middle of September.

Duchesse de Mars. A rather large, dull green, disagreeable-looking fruit; a

little coarse-grained, but melting, juicy, and sweet. Good. Middle of November. These specimens were from a young tree on pear stock.

Doyen Dillen. A very handsome, oblong pear, of good size; pale yellow, juicy, and sweet. Very good. First of December.

Doyenné d'Alençon. Medium, or rather small; skin thick, very rough; dull green and russet, with a faint blush; a little coarse-grained, juicy, tender, and subacid. Good. Last of November. An extremely unprepossessing fruit in appearance; but one which promises well.

Doyenné Boussock. Large, yellow, rather coarse. First of October. These were the first perfect specimens which our trees have produced, and they were quite inferior to some which I have tasted elsewhere, and not unlike a *poor* specimen of Stevens's Genesee.

Delices d'Alost. A rather large elongated pear, somewhat resembling *Doyen Dillen*, but with more red in the sun. It is, however, inferior to it; rotting at the core before attaining ripeness.

Des Chasseurs. Medium, pyriform, pale green; marked with russet; juicy and tender, but inferior. Middle of November.

De Lepine. Medium, obtuse-pyriform; dull green, with a faint blush; coarse and astringent. Last of November.

Enfant Prodige. Cracked so badly as to be quite worthless, and did not attain its full size.

Fondante de Noël. Did not ripen well, and was quite small.

Josephine de Malines. Medium, obtuse-turbinate, dull green, melting, juicy, and sweet. Good. Middle of November.

Jones. Rather small; acute-pyriform; wholly covered with cinnamon russet, with a rich blush in the sun; juicy, buttery, and sweet. Very good. First of November. A very handsome pear, which bore a fine crop, and gives promise of considerable excellence.

Jersey Gratioli. A medium, or rather large fruit; yellowish-green, with considerable russet, and a faint blush rather coarse and gritty, but very juicy, melting, and subacid, having much of the Brown Beurré character. Very good. Middle of September. Bore an abundant crop, and promises well.

Kirtland. Rather small, roundish, cinnamon russet; a little coarse, melting and rich. Last of September. Our specimens were rather indifferent; but some, which I received from a friend in the vicinity, were of full medium size, and "very good." It will, I think, prove a valuable variety.

Louise de Boulogne. Small, greenish-yellow, with a little russet; melting and sweet. Good. First of October.

Osbond's Summer. Small, obovate, pale yellow and red; a little gritty; juicy, melting, and sweet. Very good. First of September. This was evidently gathered too early, as it had not acquired its proper size.

Rapelje's Seedling. Medium; dull yellow, coarse, gritty, juicy, and sweet. Very good. First of November.

Rédette. A large, yellowish-green, russeted pear; juicy, melting, and sweet. Good. First of November.

Soldat Laboureur. Began to fall from the trees in September, and did not ripen, after being gathered.

Theodore Van Mons. Proved to be Doyenné d'Été. A variety received for Charles Van Mons, but supposed to be Theodore Van Mons, proved worthless (from a standard), being hard, dry, and flavorless.

Van Assche. Medium; greenish-yellow, with a faint blush; rather coarse and gritty; tender, juicy, and sweet. Good. First of October.

Vicompte de Spoelberch. Indifferent. First of November. This fruited very well on the quince, and some of the specimens were of pretty good size, but with little flavor. It, as well as many others of the varieties named, will probably improve as the trees acquire age. The first fruit rarely being a fair test of the excellence of the variety.

JANUARY 7, 1856.

CRITIQUE ON THE JANUARY HORTICULTURIST.

BY JEFFREYS, WESTERN NEW YORK.

AND so, my instructive old friend, you are nestled down in soft, sunny, drab-coated Philadelphia! the land of rich gardens, generous soils, and skilful cultivators. It is well. Since your sudden departure from Albany, where a most sad event deprived you of the genial spirit which hovered over your early years, and directed your vigorous manhood, I learned that you had taken up your abode among the tree-growers of far away Rochester and the lakes, where I had almost lost sight of you; but now that you are emerged into the cheerful sunlight of the Atlantic, I hail the continued vigor of your career with pleasure. We once had pleasant talks together, and if you do not object, in my old way and fashion, we will renew our wonted intercourse—premissing, by the way—that if I grow tiresome at any time, the slightest intimation will silence my pen. To commence, then, I send you my CRITIQUE ON THE JANUARY HORTICULTURIST.

On Gardeners and Experimental Gardens.—A capital idea, Mr. Editor, as any one who knows what trouble we poor mortals, who depend upon the labors of professed gardeners, have had in obtaining those of the right kind, will concede. A competent gardener, up to his business, must be a man of mind; and a subordinate, uncomfortable situation, such a man will not occupy—any longer than he can do better. The gardener himself being right, by all means give him a direct interest in his labors, through the produce of the garden, if a market exist in the neighborhood where he can turn such produce to profit. It thus gives him a responsi-

bility, a character, and a consequence. It stirs his pride, promotes his emulation, and increases in him a striving to improve constantly in his vocation. Why, sir, many a time have I known the toiling, pains-taking gardener, intelligent in his line, far more worthy of companionship than the conceited *parvenu*—there is now and then one such—who employed him, and kept him in a degraded position, while ministering to his own inflated pride and accidental wealth. Many an unknown Sir Joseph Paxton, might have risen to fame and eminence through the kind word fitly spoken, and the generous encouragement of an appreciating employer. Of *bad* gardeners—*imported*, at that—we have enough, in all conscience; but we can rapidly have better ones, by taking the pains to make them, and showing them that their endeavors are appreciated by their employers.

Gardening, in its elevated sense, is one of the fine arts, and no one not thus estimating it, need suppose that he can command the labors of a *Praxiteles* in that line, at the same rate of compensation he does those of the boor who blasts out the shapeless marble from the quarry.

Mr. Dowell's Rhododendron.—A most gorgeous thing. When you have tried it, just let us know whether it will stand, unhoused, our northern winters. If so, we must see about it. A *perfect* Rhododendron is the *summum bonum* of floral beauty.

Cultivation of the Raspberry.—Excellent. Raspberries—to my notion—are the best summer fruits we have. So easy to grow, that everybody, with a little patch of land, can have them—a great argument in their favor. But there is one objection to those you describe, Mr. Hughes—that of their sensibility to frost—inseparable, probably, from varieties so choice. Now, I grow a most excellent, strong, red raspberry, prolific in bearing, delicious in flavor, and a month in season, whose wood is hardy as a currant bush. It is not our common field red raspberry, either. The man I had it of said it was the Antwerp; but it is not the red Antwerp of the nurseries; yet quite as good, and I would not exchange it for any of the less hardy kinds, if I could have but one. I hope that Dr. Brincklé, among all the new varieties with which he has blessed the world, will *invent* a hardy one, of choice flavor.

The Lombardy Poplar.—Rather sensible in Mr. Allen. I hope he has the courage to practise what he so well preaches, by planting them in his grounds. For my part, I always did like the Lombardy Poplar, although it has long been an outcast with some people professing *high taste* in tree culture. As he heads his article in the plural, and has described only one, I hope he intends to show us the propriety of renewing some other “old fashioned” varieties. If so, he will do the public a service. Suppose you try your hand, Mr. A.?

Downing's Familiar Notes and Letters.—The pleasure of reading them is dashed with sadness that so accomplished a spirit can no more be seen and heard by those who loved him so well. At his death no man, in his peculiar walk, on this side the Atlantic, gave so much promise of usefulness as he. And there is none who has yet given promise to take fully his place. His genius was a natural one,

highly cultivated, and rightly directed. I trust we may ere long discover one on whom his mantle has fallen.

Frontispiece—an old house newly modelled.—This is a very sensible affair; more so, by long odds, than three-fourths of the starched up things that appear in print from some of our professional architects. It so well suits me that I have no disposition to criticize it, further than to say that I don't fancy that round-topped window perked up into the eaves of the tower front. I suppose, however, it is to balance the bay window below, and give light to the attic, or garret, which might have been done with better architectural effect by a roof light, as the room communicating with it is not wanted for the occupation of either family or guest. The upper kitchen is a grand reform. Stick to the *upper kitchen*, Mr. Smith. Let your future efforts but be in as good taste as this, and you will succeed in "country" architecture.

Railroads in a social point of view.—A mighty good thing for the country, bad as some of them are, even if the stockholders do cry over their depleted pockets. Railroads have added twenty-five to fifty per cent. to the agricultural wealth of the country at large, and given you, and me, friend Horticola, and many thousands of others, a chance to enjoy life in the pure air of the country, while our daily toil is mixed up with the stench of the cities. These things will all find out their true interest by and by.

New Pears.—Why, my dear Doctor, you are so flooding us with new pears that we shall be utterly at a stand in our choice of what to cultivate, for the simple dozen varieties of which we stand in need. But it is "the trade" of the nurserymen to give us *new* things; and if they but prove *good*, no one need complain that so numerous varieties are offered for his choice.

A day at Kew Gardens, No. 1.—Why, Mr. Editor, will you tantalize us with descriptions of what we shall never see, and what, with all our longings, we never can have, on *this* side the water? It is pleasant to read them, however, and thus we will look with much interest for Nos. 2, and 3.

Gossip from the Northwest.—"Go ahead," gentlemen. You have it all to yourselves in that quarter. But don't "crow" too lustily over your prodigious growths of limb, and great big fruits. You are hardly "out of the woods" yet. The blight will be after you presently, as it has been after us—and possibly *stay* with you—in the *pear* line; and the curculio, and the apple-borer, the peachworms, and the yellows. They are all on their westward travels. Recollect you are only ten years old out there in Iowa. So, don't boast too abundantly. I've suffered a little in that line myself. How is the *flavor* of those aforesaid large fruits, compared with the compact, medium-sized specimens? Let us have a *tasting* party at the pomological meeting next fall at Rochester, when I hope we shall all come together.

THE LOWELL WIRE FENCING.

THIS fencing, manufactured by J. E. Butts & Co., Boston, Mass., we are disposed to think, would be found very useful in many places where it is unknown. The proprietors say:—

Our Wire Fencing, represented by the within diagrams, for economy, strength, closeness, portability, elegance, and durability, may challenge competition with any fencing in the world.

Figure 1 is a diagram of a section of our fencing, with the roll from which it is unrolled. The posts are of wood, set from eight to twelve feet apart; but they may be of iron, or stone; or trees may be used in lieu of posts, where convenient. Rails are entirely dispensed with. The fence is raised from 4 to 12 inches from the ground, and is drawn straight and tight, or kept upon an exact level, or regu-

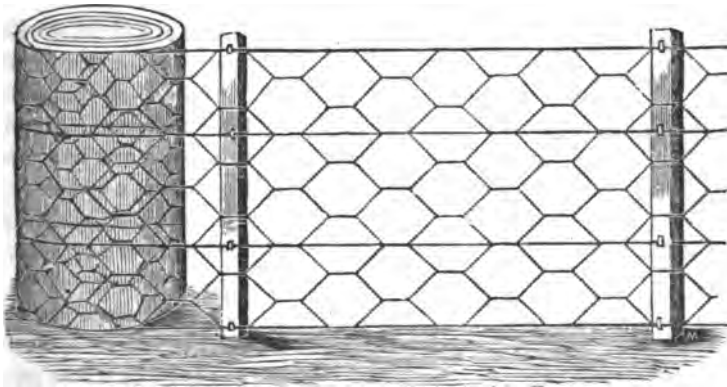


Fig. 1.

lar inclination, from end to end. Care is required to put it up substantially and neatly. Staples about three inches in length secure the fence to the posts; each lateral (or horizontal) wire being clasped with a staple at every post. But bolts, or screws with hooked heads, or wire twisted round the posts, answers every purpose. There are several descriptions of this fencing.

No. 1 is $3\frac{1}{4}$ feet high, with meshes (or open spaces), 3 inches square; 4 lateral wires, of No. 10 wire (one-eighth of an inch in diameter), run through the body of the fence, which is No. 14 or 15 wire; and the weight is 10 lbs., and the price \$2 per lineal rod ($16\frac{1}{2}$ feet.)

No. 2 is precisely like the first kind, except that there are but two lateral or straight wires in it—one at the top, and another at the bottom of the fence. This is 9 lbs., and \$1 75 per rod.

No. 3 is $2\frac{3}{4}$ feet high, with meshes 3 inches square; it has three lateral No. 10 wires, with the body work of No. 14 wire. It is $7\frac{1}{4}$ lbs., and \$1 50 per rod.

No. 4 is precisely like the third kind, save that the lateral wire in the middle is omitted. It is $6\frac{3}{4}$ lbs. and \$1 $37\frac{1}{2}$ per rod. These kinds are the best for cemeteries, gardens, door-yards, heneries, etc.

No. 5 is 16 inches high, with meshes three inches square; there are two (outside) lateral wires of No. 12 wire; the body is of No. 15. It is $4\frac{1}{4}$ lbs. and 75 cents per rod. It is used for ornamental garden work.

No. 6, extra, is $3\frac{3}{4}$ feet high, with meshes 6 inches square; it has four lateral No. 8 wires, with body work of No. 11 wire. It is 10 lbs., and \$1 50 per rod. This kind makes the best and most practicable barrier against cattle, around fields, along canals, railroads, etc. Some of the railroad companies have already adopted it. Indeed, it is emphatically a railroad fence.

No. 7 is precisely like the sixth kind, except that the two middle lateral wires are omitted. It is $8\frac{1}{2}$ lbs. and \$1 per rod. It is the cheapest sheep fence that can be erected; and, like the second kind, it is admirably adapted for trellis work for grape-vines and roses, for garden arbors, etc., as seen by second diagram.

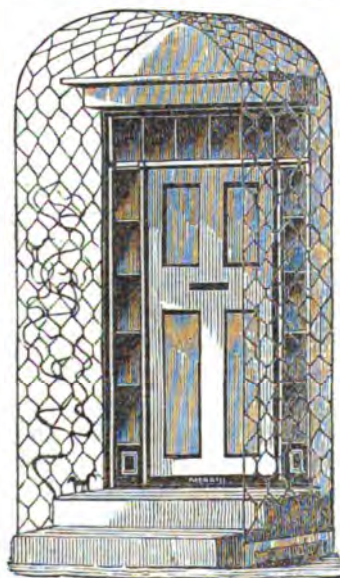


Fig. 2.

The prices given above are those at which we deliver the fence in rolls at the Boston Depot, for cash in all cases; the cost of transportation to be defrayed by the purchaser. A roll contains about twenty-five rods; and less than one roll will not be sold, unless as a sample.

None of our fence is consigned; but a discount of twenty per cent. on the above prices is made to agents, retailers, and others, giving an order to the extent of \$500; and any person or firm, who will make an effort to introduce our fence, can have an agency in any place where an exclusive agency is not already established, on application to the proprietors, giving suitable references as to his commercial responsibility. Retailers and agents are expected to advertise. An extensive field for the operation of agents is still open, especially in the West.

Our fencing is varnished black with asphaltum varnish, before leaving the mill; the varnish gives it a beautiful appearance, and protects it from the influence of the weather—from rust. If preserved from oxidization by this varnish, or by paint, or tar, or japanning, or galvanizing, the fence will *never wear out*; but the varnish will require renewing once in every four or five years.

This fence is impassable to all stock; it does not "hold" the wind, and can never be blown down in a gale; no flood will wash it away, since it offers no resistance

to the current; it excludes none of the solar rays, so conducive to vegetation; it does not confine the heat, like board fences and walls, which is prejudicial to crops; it does not occupy and exhaust the soil, like hedges; it requires no repair, save an occasional replenishing of the varnish, and wherever it has been tried, it has given the most unqualified satisfaction. This last fact is attested by many hundred

letters now in the hands of the manufacturers, written by scientific and practical farmers in all parts of the Union.

Our Window Netting is of various widths from 13 to 28 inches; its meshes are one inch square; it is of No. 17 or 18 wire, and varnished like the fence, and sold (at retail) at *seven cents* per square foot, being less than one-half the usual price.

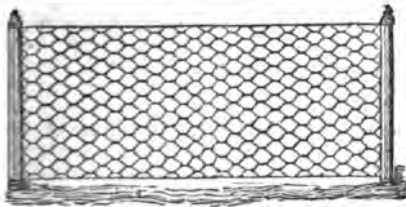


Fig. 3.

Fig. 3 represents another kind of this fencing, from sixteen inches to four feet high, with meshes of three inches. The body of this fencing is of No. 25 wire; the price from 75 cents to \$1 50 per rod. This fence, in its several varieties, makes an admirable sheep, poultry, and garden fence; that four feet high serves for heneries.

[We should advise that this wire be galvanized, to prevent the necessity of painting or varnishing it every year or two, which would not only be expensive, but difficult when covered with vines.—ED.]



EDITORS TABLE.

Gossip.—It would be as impossible to pack away in this number all the favors of correspondents as to inclose the entire wardrobe, bonnets and all, of a large family going to "the Springs" in a pair of old-fashioned saddlebags! We ask a little indulgence; meantime we "cram" a little to gain space.—The *Gardener's Chronicle* asserts that it is not necessary to force peas into bearing to get the best pea soup; the leaves make as good or better *purée* than the green peas themselves.—All accounts agree in stating that orchids have generally been subjected to too much heat; a few require this, but a large proportion are natives of climates where the thermometer falls below zero; as commonly at 30 feet as at 10,000 feet above the level of the sea. By thus forcing the plants beyond nature, the luxurious vegetation soon perishes.—A *Bee-Keeper's Guide* recommends three hard-named plants as affording good feeding for the bees. A correspondent says none of these can be found out of hot-houses, and recommends that the cottage bee-keepers should live in "Cottages ornes."—The *Gardener's Chronicle* speaks well of Professor Fisk's entomological researches in New York.—Calceolarias, as exhibition plants, are losing ground abroad, while Gloxinias have made a decided advance. Ferns are the fashion, and plants remarkable for fine foliage are coming into vogue.—The Cyane pine-apples are in much favor, and the Stockwood Golden Hamburgh Grape, figured in the February number, all admit to be an acquisition.—The *Ugenia Ugni* has ripened its fruit well in England, and seems destined to become an important plant; when the fruit is perfectly ripe, the flavor bears a close resemblance to a good pine-apple; "a rich aromatic and indescribable flavor, being something between that of a good Pine and the Hautboy Strawberry, and even in gathering this, rich odor is left on the fingers."—A grower of Camellias who wishes large and perfect flowers will carefully thin to one bud at the point of each shoot.—The Pampas Grass introduced into England attains the height of ten feet, with spikes of silvery feathers sparkling in the sunshine; it is pronounced "a noble ornamental hardy plant for a lawn, with handsome drooping foliage."—*Thyracanthus rutilans* is a favorite, with its pendent racemes of scarlet blossoms.—An instrument for pruning trees is announced; it elongates the handle or shank of the chisel and slips it loosely into a hole made in the extremity of the pole; if the chisel is now driven into the limb, it sticks fast, and allows the pole to be drawn back a little, and thrust forward again against the chisel, with the same effect as a mallet; the end of the pole is furnished with a thimble to prevent it from slipping.—The *Southern Cultivator* for January has a long article on Fish and Fish-ponds, by Dr. Bachman. The propagation of fish is a most important subject, destined to prove of immense value, and but just now begins to attract attention.—Stewed lettuce, with gravy and white sauce, says Chambers, is a dish for an epicure, and the roots of celery, generally thrown away, make a princely vegetable when boiled.—At the Horticultural Society's sale at Chiswick, a *Laelia superbeum* brought a hundred and fifty, and a rare orchid three hundred and twenty-five dollars; the latter was purchased by the Duke of Devonshire.—The Imperial Agricultural Society of Paris has been trying to discover why seeds, apparently all alike, do not germinate all at the same time. The conclusion is that the latest are so tightly inclosed in their envelope, as to prevent or check the penetration of moisture, and they are now inquiring whether the tardy seeds are the heaviest or the lightest, and whether they are obtained from one part of a plant more than another.—A French savant, M. Basset, says, that the virtues of beet-root are not half appreciated; that it is far more profitable than grass in the feeding of cattle, and contains such a variety of chemical products as to make it better worth cultivation than agriculturists generally believe.—The Belgian government offers a prize of two thousand dollars to any one who will discover a way to make starch for manufacturing purposes, from a non-alimentary substance. Enormous quantities of flour are used in the cotton manufacture alone.—M. Coste was instructed, last year, to stock the lake in the Bois de Boulogne with fish, when 50,000 fry of various

kinds of trout were thrown in. As nearly the whole of these have lived, and many of them are from five to six inches long, reproduction will soon commence, and we shall probably learn that Paris is well supplied.—Professor Way is teaching the English how to economize the ammonia of the atmosphere; it is to take advantage of this manure by means of drainage, which promotes the equal flow of rain-water through, instead of over the soil; by deep cultivation and thorough pulverization of the land, which brings every part of it into contact with the air.

JEFFREYS STILL ALIVE.—The former readers of the *Horticulturist* will welcome back to its pages a favorite writer over the signature of *Jeffreys*, who used to criticize with an unsparing but just pen, editors and contributors, in a bold dashing kind of style that was always the cream of the number. We had understood that he had retired from public view, and was living the life of a hermit; from another source that *he was married!* from another that he was dead; a fourth thought he must be offended; but going on a pilgrimage purposely to discover his disease, whatever it might be, we found him as full of life and vigor as ever, managing his own affairs as such an able penman might be supposed to do, full of life and observation, and as merry as a cricket who had secured a good place in a good chimney corner. With some demurs, he agreed to enliven the horticultural circle again, and to-day he makes his return bow with a "critique on the January number," which has the old flavor about it. He is most welcome.

FANCY TRAINING OF FRUIT TREES.—It is a favorite theory of some writers that fruitfulness and barrenness in plants and trees are influenced by the mode of training. Constraining fruit-trees within limited bounds we know answers a good purpose. Hayward, an English writer on the subject, has explained various modes, which we here repeat for the amusement of amateurs. The following in brief is his method:—

If it be desired to train fruit-trees so as to fill a circular space, they are best trained with their branches reversed; they thus bear a great deal of fruit in a small space, and are protected from high winds without stakes. Obtain plants with one upright stem, of from three to four feet in height, and at this height let them throw out from four to six branches three or four feet long, like Fig. 1. Bring down the branches at the winter pruning and fix them to a hoop with willow or twine, thus, Fig. 2. The sap will not now flow in sufficient quantity down the branches to form wood branches at their ends, but the buds will readily form for blossom buds and fruit. The wood shoots will be thrown out on the upper sides of the reversed branches, and in winter may be cut out or brought down as before for a second

Fig. 1.

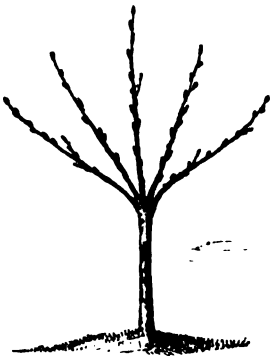
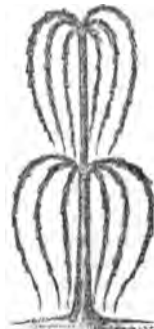


Fig. 2.



Fig. 3.



tier, as in Fig. 3; and, on the same principles, may be carried to a greater height. Remove all collaterals as soon as discovered, and as the reversed branches are worn out they must be cut away, and fresh ones brought down. Two tiers will be as much as will be manageable or useful.

The "spiral cylinder" is well adapted to small gardens. Prune and manage the tree so that it shall form four or six branches of nearly equal size near the ground, Fig. 4. When these are three to five feet long, fix six rods or stakes into the earth for supports, in a circle

about the root, as in Fig. 5, the centre dot marking the root, and the others the rods. Each branch is then to be brought down, and being fixed to the rod near its base, the branch is

Fig. 4.

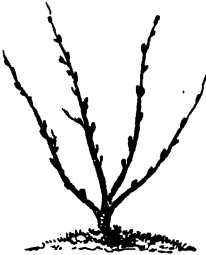


Fig. 5.

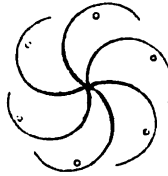
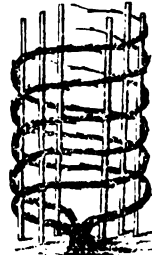


Fig. 6.



to be carried round in a spiral manner, on such an elevation as will form an inclination of fifteen degrees, each being fixed in the same manner; thus all will move in the same direction, like so many corkscrews, as we see in the *Cereus* tribe in windows, wound round upright sticks, Fig. 6.

As trees trained in this manner need never exceed the bounds allotted them on a border or bed, a greater number may be planted, and a greater quantity of fruit produced in a given space, than can be the case when they are trained in any other manner. Pear and apple-trees thus treated should always be on dwarf-growing stocks.

THE OHIO POMOLOGICAL SOCIETY'S late meeting was one of great and varied interest; the proceedings, like those of New York, are to be issued in pamphlet form, and will thus be accessible to all. President A. H. Ernst delivered a very able address that will, we hope, be printed in full; it goes over a ground that the young nurseryman and amateur will do well to study and practice, that of Hybridization. He said:—

"We have not come from our homes on an errand of *speculation* for selfish ends; the benefits of a *class* only. No! Our mission is one of universal *philanthropy*. We meet to consult on matters of comfort and good to all; to acquire a more thorough knowledge of the *tree*, the *vine*, and *their fruits*—the best means of improving them—to acquaint ourselves more fully with the nature of their enemies, and their modes of attack; the best means to counteract their destructive effects, and, if possible, to learn how to exterminate them. These are the objects of our mission. If we act wisely, we shall confer innumerable blessings, not only on our cotemporaries, but on millions who will never hear our names; and, as a reward, we shall have the satisfaction, when we retire from the world and leave its busy scenes, that we have done something to promote the comfort of those who shall occupy our places." * * *

OHIO AS A FRUIT STATE.—"Let me not be thought tedious, however, and to have taken up the time that should be devoted to a discussion of the fruits before you. I am sure that, on reflection, the importance of what I have advanced will be felt and acted upon. It is appropriate that we take a step forward, and not leave chance unaided in her efforts to improve and bring into existence new varieties for us to pass judgment on, and assign them their place in the catalogue. Our work of *collating* from this source will soon be accomplished. It may not be amiss to remark, that as the art of grafting and budding is now universally adopted; that plantations of fruit trees are no longer permitted to grow and mature fruit on the natural stock—by this innovation we are depriving *chance* of accomplishing her accustomed work. It therefore is incumbent on us to be active, and put our knowledge in a shape to produce practical results. Ohio, with a soil unsurpassed, a climate mild and balmy, must not be content to be an indifferent looker-on, or content even as a follower; she should aim to *lead* in the noble enterprise. She did so in forming the *first State Pomological Association*, from which we have good reason to believe that great benefits have resulted."

The Pomologists of this country have got fairly to work, with an enthusiasm that has already accomplished very much, and will do more.

WESTERN NEW YORK FRUIT GROWERS.—Mr. P. Barry has kindly furnished a report of this Society's meeting, which was designed for the February number, but was not received in

time. The *Rural New Yorker* contains the very able and interesting speech of the President, J. J. Thomas; it will be read with improvement by all who cultivate fruits. He said:—

"The question is perhaps more easily asked than answered, why it is that while no farmer would think of planting a field of corn to grow among the grass of a meadow, there are so many who will place valuable young trees, which have cost them more than a hundred times as much as the corn they have planted, in the midst of a dense grass sod? Or who, having once planted them in good soil, wholly abandoned them to weeds? However, dear-bought experience is enforcing its lessons, and good cultivation is becoming more frequent, and better understood. * * *

"I have taken the pains, the present season, to measure the products of a few apple trees, set out about six years ago, then two years from the graft. The soil had but one light manuring for many years, and was naturally more sterile than most of our common farm soils. But it had been kept under good clean cultivation. Two of the *Dyer* apple bore each a bushel and two-thirds; a *Baldwin* yielded three bushels and a half; a tree of the *Minister*, three bushels; a *Belmont*, two years older, bore five bushels; and a *Northern Spy*, eight years transplanted into a large hole containing a portion of compost, bore nine bushels.

"By keeping the ground clear of all vegetable growth in an orchard or fruit garden, whether it be a planted crop, or a self-sown crop of weeds, which is the best and most profitable course (unless it be sometimes that a green crop for manure may be advisable); by adopting this course, five or six dollars an acre are all that need be required, where one or two ploughings and five or six harrowings are given annually—affording an almost incredible supply of the necessaries, comforts, and luxuries of life combined; while without such cultivation, perhaps not a fifth part of the same real value would be afforded. How strange that any one should attempt to save the few by wasting the hundreds! Squandering the dollars to save the cents, most emphatically! * * *

"I hold the inherently wise as well as time-honored rule, that every tree is to be judged by its fruits—by its intrinsic worth, whether Europe or America is the place of its origin. By this rule we all pronounce the older foreigners, the *Bartlett*, *Virgalieu*, *Louise Bonne of Jersey*, and *Flemish Beauty*, and such newer arrivals as the *Rostiezer*, *Giffard*, and *Beurre d'Anjou*, as worthy companions of the *Seckel*, the *Tyson*, the *Brandywine*, the *Washington*, *Sheldon*, and *Lawrence*, and other native Americans; while among the apples, the *Astrachan*, *Dyer*, and *Gravstein* will compare well with our *Melon*, *Hawley*, *Spitzenburgh* and *Swaar*.

"The truth is, we have a long road to travel before we reach a perfect list of fruits; and we need all the assistance we may be able to procure from all sources. * * *

"I have taken a little pains to estimate the time required for all our present nurseries in the whole Union to furnish a ten acre orchard to every farm of a hundred acres, in all the States east of and contiguous to the Mississippi River. On the supposition that all the ground occupied by nurseries in densely planted fruit trees amounts to ten thousand acres, their entire and continued products would be required for three hundred years to fill out all these ten acre orchards. But many estimate that only one-fifth of all the trees set out ever reach a successful bearing condition—in which case fifteen hundred years would be needed by our present nurseries to plant one-tenth of our entire territory with orchards." * *

Mr. Stone said: "I knew one tree of the *Baldwin* apple that two years ago produced twenty-eight bushels, that sold for \$40. Our Agricultural Committees estimated one acre in orchard as equal in value to twelve in other crops, but he thought the figures large enough at five to one."

Mr. Barry said: "Of pear orchards we have but very few in our country. One is that of Mr. Thaddeus Chapin, of Canandaigua, which has now been set nine years. Six years after being set out, he sent some fruit to New York, and obtained \$8 a barrel for it. The next year he had thirty barrels of fine pears from his three acres. For those he obtained \$15 a barrel, making \$450. This was his own price, and after paying him for them, the market-woman remarked that if he had asked \$18 she should have paid it quite as willingly. The year before last he had fifty barrels, which he sold in New York for from \$18 to \$20 a barrel—making nearly a thousand dollars. This last year his crop was partly a failure, which he thinks was owing to planting corn in his orchard, and close up to the trees. When his pears were nearly grown they dropped off without ripening, and he lost nearly all."

THE CHESTER COUNTY HORTICULTURAL SOCIETY'S schedule of premiums for 1856 has been sent us, embracing much that is of interest and value. This spirited society deserves high commendation for what it has accomplished, and the taste it has infused in its neighborhood. There must be much in West Chester worthy of being communicated to the public through our columns.

J. J. SMITH, Esq., EDITOR OF *HORTICULTURIST*.—Having seen in the *Horticulturist* an account of the vinegar plant, I send to you a small bottle of *tomato* vinegar.

The facility with which a large supply can be obtained may make it worthy of notice. Those skilled in the manufacture may much improve the quality. The juice had sugar added to it. That which was pure became spoiled. Perhaps a fermenting substance added would prevent that. [This appears to be a very good and well flavored article.—Ed.]

Respectfully, JACOB T. WILLIAMS, *Philad.*

A PARK IN NEW YORK seems now a probable thing, and, if properly carried out, will prove a blessing to the people, and an example which we trust other cities will not be slow to follow. It has our best wishes.

DR. WARD ON PEAR CULTURE.—The second valuable article from Dr. J. M. Ward on Pear Culture will appear in the April number of the *Horticulturist*.

THE JANE APPLE.—Samples of this apple have been sent us by Benjamin Borden. It is a seedling growing by the side of a fence in Middletown, Bucks County, Pennsylvania, on land of Jane Richardson, from whence its name. It is a medium-sized, good-keeping apple, and we are inclined to think it an acquisition. If Mr. B. will forward us a few grafts, they shall be judiciously distributed.

ANSWERS TO CORRESPONDENTS.—P. Q. R. and E. H. R., &c. &c. in our next.

S. L. GOODALL'S CATALOGUE, from Saco, Maine, with descriptions, is one of the best of its kind. It has illustrative engravings, and remarks of great interest to planters.

MISSOURI WINE.—The sample of Missouri wine from Mr. Haas, Boonville, we pronounce *very superior*. It has more the delicate bouquet of *Lachryma Christi* than any wine of American manufacture. If such can be produced for the market, there is, indeed, no need of going abroad for our table-wines.

THE COLD.—At Warsaw, Indiana, on the 8th of January, the thermometer was 19° below zero at 6 P. M., and on the 9th 27° below 0 at 6 A. M., the coldest morning ever known in Northern Indiana. Peaches and young orchards, it was feared, would be injured. On the 24th of December, at Napersville, Illinois, at 6 o'clock, 16° below 0, and, on the 26th, 21° below 0. At St. Paul's, Minnesota, the cold was equally severe, being 27° below 0, and in January even colder. One would think this beyond the endurance of many plants known everywhere as "hardy." On Staten Island the cold has been greater than known there for seven years. Greenhouses suffered much in every direction, even where water was kept at the boiling point all night. Around Cincinnati, just before sunrise, the thermometer fell to 24° and even 28° below zero, and it is feared that the peaches are destroyed. At Cleveland, the modifying influence of the lake was such that the thermometer stood around that city from 14° to 20° below, while a few miles removed from the lake in the direction of Sandusky, a gentleman writes that it ran down to 32°!

On February 6 and 7, 1855, the thermometer was at 26° below zero in the lake counties of Western New York, where 0° is considered very cold and of rare occurrence. Thus we have had two intensely cold winters in succession. There has, doubtless, been much injury to fruit, but our field is now so large that a moderate supply of nearly all the varieties may still be hoped for. Greater attention must be paid to those fruits which have not been affected. We are obliged to many correspondents for thermometrical observations, but, generally speaking, these were well known before we could publish them. In this latitude it has rarely been colder, or of longer continuance.

ANSWERS TO CORRESPONDENTS.—Will U. U. be kind enough to give us an opportunity of addressing a letter to him? Thanks to J. B. P.; but we are supplied. Robert Meston received.

(A SUBSCRIBER.) The seeds from the Agricultural Department of the Patent Office are distributed to agricultural and horticultural societies, by whom they are to be procured on application, &c.

(JOSEPH GARST.) Springfield, Ohio. 1. Hen manure and charcoal would doubtless be as good for young fruit-trees as guano and charcoal.

2. Chestnut and English walnut-trees should be planted as far apart as standard apples, and filberts as near as dwarf pears.

3. Ants may effectually be driven away by a solution of copperas, or by sulphur.

4. You had better not employ any grass or grain among your fruit-trees. A crop that requires manuring and working, such as potatoes or other low crops, that demand the frequent use of the plough or hoe, will not be detrimental for a few years; but, if well stirred, will be useful until the roots have spread over the whole ground.

(H. S. C.) See former volumes for the cultivation of the blackberry; it is an established favorite. The best agricultural work is Stephens's Book of the Farm.

(EASTER BEURRE.) This old variety is a very uncertain fruit; sometimes very fine, mostly partially good. If the fruit of "Subscriber," instead of remaining in the barrel, had been removed and put on shelves in a dry cellar or closet, out of reach of frost, no doubt more than half of them would have been saved. Pears, with the exception of a few varieties, do not keep well in barrels; they want a cool, rather dry cellar, or basement where a cellar within a cellar—say a closet, with a window eastward—can be constructed. In such a place the writer took out some summer apples and two Andrews' pears, which commonly ripen in September, on the 4th of last January, sound and delicious. They were overlooked on a low shelf in a common provision cellar.

(AN ORIGINAL SUBSCRIBER.) EDGINGS.—There are few plants that make a better edging, where box is not used, than the Sea pink. The common garden thyme makes a pretty edging, the lemon-scented species especially so. The small periwinkle (*Vinca minor*) is very good for this purpose, besides growing well in deep shade.

DWARF CLIMBING VINES, "not growing over three or five feet, and not liable to be infested with red spider, and which will retain their verdure till frost," are not common. The several varieties of thunbergia, maurandia, and cypress-vine come nearest to your wishes, though the red spider occasionally preys on the first named. *Tropaeolum canariense* is a good yellow, and *Lophospermum scandens*, pink.

BEDDING PLANTS, "one and a half feet high, to stay green till frost, and blooming early." The Madagascar periwinkle, pink and white, has as "pretty a habit and as showy bloom as can be desired, and flowers profusely. *Cuphea platycentra*, scarlet, and the different varieties of *Petunia* do well. *Lantana sellowii* and other kinds of *Lantana* are very fine for this purpose. All these have to be raised in the fall, and kept over the winter in pits or greenhouses. There are not many annuals that can be sown out in spring and retain their verdure till fall. The *escholtzias* will sometimes (yellow and orange). The globe amaranthuses (white, purple, and yellow) do very well. The following list of annuals are those which retain their verdure the longest, and do not exceed two feet high: *Ageratum Mexicanum*, blue; *Browallia elata*, blue; *Cacalia coccinea*, scarlet; *Chrysanthemum euryoides*, yellow; *Krysinum Peroffkianum*, orange; *Gaillardia picta*, yellow and red; Candy tuft, white and purple; *Phlox drummondii*, purple and white; *Mignonette*, buff; and the new out leaved, white.

GOOD BEDDING-OUT PLANTS.—Besides those already given in the above answers, you may try *Asclepias curassavica*, orange; *Pentas carnea*, pink; *Neiremburgia gracilis*, white; *Buellia formosa*, scarlet; *Plumbago copensis*, lead; *P. larpentae*, blue; Horseshoe geraniums, scarlet or white; Rose-scented geraniums, pink; *Heliotropes* and *Verbenas*.

(D. B.) FROSTED PLANTS.—Thaw them gradually, and in the dark. If but a single plant, immerse it in cold water and set it under the greenhouse stage; if the whole house be frozen, put up the shutters, or throw on mats over the glass and syringe well with cold water. Plants which, under ordinary circumstances, are killed by a degree of frost, can often be recovered from severe injury by this treatment.

DEATH OF DR. HARRIS.—Dr. Thaddeus William Harris, whose death has recently occurred, will long be remembered for the benefit which his labors have conferred on the public. He was widely known as an entomologist, and his work on *Insects Injurious to Vegetation*, made in pursuance to an order of the Massachusetts Legislature, possesses a practical value of immense importance. At the time of his death he was the Librarian of Harvard College, from which institution he graduated in 1815. He was a member of various scientific and other societies, and in all the relations he occupied he sustained the character of an able and honest man, and has left a name which will be cherished by all who knew him.—*Boston Cultivator*.

SUCCESSFUL CULTIVATION OF PRUNES.—Prunes have been very successfully cultivated in Pennsylvania. Among the Economists, in Beaver County, they have been grafted on plums. Mr. Pfeiffer, of Indiana, raised prune-trees in large numbers, and sold them at exorbitant prices, some as high as \$5 and \$10. He had some of the fruit at the Pennsylvania State Agricultural Fair, held at Pittsburg, which sold readily at 50 cents a quart.

TO GRAPE GROWERS IN THE UNITED STATES.—**GENTLEMEN:** Having provided myself with the Catawba and Isabella for natives, Black Hamburg, Golden Chaselas, Black Prince, Pitmaston, White Chester, and Early Black July, for foreign, all of which are planted along a tight board fence; the foreign on the south side, native on the north, directly behind the former, for the purpose of hybridizing when all are in bloom; at that period two or three boards may be taken off, the branches interlaced until all the fruit is set. But by taking notes when all grew under the same advantages of the sun and light, I found a difference between the two varieties in the time of blossoming, of from ten to fifteen days; the natives having set their fruit and grown as large as No. 6, shot before the foreign were in flower, thus doing away with all chance for hybrids. Now how long shall I retard the native by applying ice to its roots covered with litter, its top being shaded by the fence; or when shall I commence to stimulate the roots and tops of the foreign, the first by warm manures, the latter by blackened boards, stone and charcoal under the vine against the fence, over which a little flour of sulphur may be thrown to prevent mildew. If any by experiment have caused the two, foreign and native to bloom exactly together, and will give me particulars, either privately or through the *Horticulturist*, it would greatly advance my case, and in all probability, save two or three years in experimenting; and likely be the means of placing on the American table a grape far superior to any now enjoyed. The above Grapes will all ripen their fruit here quite well by being protected through the winter. All my experiments are for open air culture, and particularly to have the pollen, both of native and foreign mingled together for the hybrid; for it strikes me, to cut off the anthers of the Catawba, and allow the Hamburg to furnish pollen only, the offspring would be too tender to stand our winters; and such might not be a true hybrid after all.

WM. H. READ, *Pt. Dalhousie, C. W.*

DOWNING'S LETTERS.—The conclusion of these letters we have been obliged to postpone to the ensuing number, together with several communications from correspondents.

GRAPE-VINE ROOTS OR CUTTINGS.—Dr. Underhill states in the last *American Agriculturist*, that his experience indicates a saving of time by the use of well-rooted plants instead of cuttings, and that the vineyard thus formed, is far more valuable, from its being less subject to injury from rotting or mildew. Where cuttings are planted, the roots usually start too near the surface of the ground, and are then under the influence of heat and moisture; the growth is rapid, increased by every shower in the spring; the sap vessels are large, and when the vineyard is old enough to bear, the month of June presents an abundance of foliage and great promise of fruit. The drought coming on in July, the roots being mostly near the surface, are deprived of the proper supply of nourishment, and soon the rotting commences; the roots also are more liable to injury from winter frosts. When you have well-rooted plants, he continues, you can set them at any depth that experience teaches, according to your soil.

PROFESSOR NORTH'S ADDRESS before the Oneida N. Y. Agricultural Society contains some able remarks, for which we regret we have not space. He says, truly: "Pay 20 dollars for the best orchard in the county, and only one man is encouraged by it; pay the same sum for the best essay on orchard culture, and the whole world of fruit growers would get the benefit."

DOWNING'S FRUITS.—We learn with pleasure that Charles Downing is engaged on another edition of his brother's *Fruits and Fruit Trees of America*; the time has arrived when such a work is required, and we shall look for it with some impatience.

WASTE STEAM.—The "waste steam" lost to useful purposes may be said to be beyond calculation. Well-regulated bottom-heat having been shown to be of immense importance in gardening, it is surprising that more attention should not be paid to economizing the waste water and steam of engines, where factories are conveniently situated. What may be done without cost by attention to this is shown by an experiment tried by Mr. Dillwyn

Llewellyn, of Wales. From a small eight-inch cylinder engine, employed by him for agricultural purposes, this gentleman conducted a jet of steam for twenty minutes daily, through an inch iron pipe, into a bed of rough stones, covered by a glazed frame; a journal of the temperature was kept, from which it appeared, first, that although steam was introduced among the stones for only twenty minutes a day, the thermometer was raised from 51° to 68° in the first 24 hours; second, that the temperature continued to rise for many hours after the second application of steam, until the thermometer reached 108°; third, that at the end of 19 hours the heat of the frame diminished; yet, fourth, that at the end of *seventy hours* the temperature still was 69°. This is a conclusive answer to those who think that masses of heated water, or heated porous materials, like rough stones, will become so reduced in temperature by a few hours' withdrawal of the prime heating power, as to endanger the plants cultivated in houses thus warmed. The experiment continued to be successful, and enabled pine-apples of the most perfect quality to ripen. A hint might be taken by many manufacturers, to grow grapes and other fruits by the aid of what is now carelessly thrown away.

JOHN W. DEGRAUW, Esq.'s annual address before the spirited Brooklyn Horticultural Society has been printed in a neat pamphlet. It contains much matter of interest and for thought. Such beautiful places as he describes in the vicinity of Brooklyn almost tempt us to leave our easy-chair.

THE REV. L. BILLINGS'S ADDRESS before the Adams County Agricultural Society, Illinois, comes to our table in neat and unpretending form, but is full of good thoughts well expressed. The report of the second annual fair, and the premiums, mark a most progressive spirit, for which we are disposed to give Illinois a full meed of credit.

DOUBLE LILY OF THE VALLEY.—This beautiful novelty is beginning to spread a little among us. It has been known for many years in this neighborhood, but has only of late been procurable. It is one of the *very* valuable additions to our spring bloomers.

VINEGAR PLANT.—We are indebted to William H. Williams, Esq., banker, of Pittsburg, for a vinegar plant, which we have set to work.

MR. GLOVER, the naturalist of the Patent Office, who was sent South, for the purpose of investigating the nature and habits of the insects injurious and beneficial to vegetation, has returned. The Commissioner of Patents expressed himself as highly gratified with the report of Mr. G. in relation to the orange and scale or coccus insects, and the red bug and the caterpillar, which are said to be very destructive to the cotton plant.

BEAUTIFUL PICTURE.—Macaulay, who paints everything in strong colors, gives the following picture in his new volume: "In the southwestern part of Kerry, on the rare days when the sun shines out in all his glory, the landscape has a freshness and warmth of coloring seldom found in our latitude. The myrtle loves the soil. The arbutus thrives better than ever on the sunny shore of Calabria. The turf is of livelier hue than elsewhere; the hills glow with a richer purple; the varnish of the holly and ivy is more glossy; and berries of a brighter red peep through foliage of a brighter green. But during the greater part of the seventeenth century this paradise was as little known to the civilized world as Spitzbergen or Greenland."

STRAWBERRIES. AN AMERICAN IN LONDON.—The *North American Review* tells the following good story: A countryman of ours, of somewhat rude appearance, walking in the Strand early in May saw his favorite dish of strawberries and cream blushing at him from the counter of a restaurant. Entering, he carelessly called for a bowl, to the marked surprise of several persons present, who knew the extravagance of the luxury, and rightly presumed that the American was ignorant at what cost he was gratifying himself. He had not finished his repast before the curious looks of the company suggested his mistake, and aroused all his latent pride. "What is to pay?" inquired he, as he laid down his dish, not without a glowering side look at the wiseacres who waited for his chopfallen aspect when the victualler's reply should fall upon his ear. "A guinea, sir." Tossing down the coin from a not over full purse, and bridling up with an air of assumed indifference, "I'll take another!" was the American's only rejoinder. How many American travellers cover their ignorance and pride at a similar expense!

Oenological and Horticultural Societies.

THE FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK. By P. BARRY, Rochester, New York. —DEAR SIR: The annual winter meeting of this Society came off on the 8th and 9th inst., the coldest days we have experienced, or are likely to, this winter. Thermometer on the 9th ten degrees below zero, with a high wind. Yet the meeting was successful far beyond anticipation, and was numerously attended by the most intelligent and enterprising nurserymen and fruit growers of Western New York. Their discussions upon well chosen, important subjects were spirited and practical, as you will see, and cannot fail to command the attention of the farmers and land owners in this region, and perhaps elsewhere.

The President, JOHN J. THOMAS, delivered an address, which, for conciseness, clearness, and force, I have not heard surpassed. It was a happy blending of the historical with the practical, and was cordially applauded at the close.

There was a grand display of winter fruits. I will give you the names of some of the contributors.

JOHN PARKS, of Gates, near Rochester, fourteen varieties of apples, half a bushel of each; superb specimens throughout. The varieties were: R. I. Greening, Baldwin, Yellow Bellflower, Roxbury Russet, Fall Pippin, Golden Russet, Eropus Spitzenburg, Seek no further, Twenty ounce Pippin, Twenty ounce Apple, Talman Sweet, &c.

COL. E. C. FROST, of Schuyler Co., a fine display of *King* and *Wagner* apples.

CHARLES LEE, of Yates Co., a large basket of the finest specimens of *Wagner* I have ever seen.

JOHN MORSE, of Cayuga, a dish of a new apple—*Morse's Seedling*. A very large, handsome red apple, quite as good as the Baldwin, and keeps till March.

JAMES H. WATTS, a large basket of the finest *Northern Spy*.

A. G. OWENS, of Big Flats, fine specimens of *King* apple.

J. W. SEWARD, of Rochester, the *Saratoga*, a beautiful apple, and the "Golden Head," both very little known.

C. L. HOAG, of Lockport, six varieties of pears.

JNO. R. LEE, of Buffalo, *Northern Spy* apples.

AUSTIN PINNEY CLARKSON, twelve varieties of apples, *Beurré d'Arenberg* pears, and *Catawba* grapes, in fine condition.

STONE and COOK, of Oswego Co., twenty-five varieties of apples, including the *Wagner*, N. Spy, and Jefferson County apple.

HOOKE & DARLEY & Co., Rochester, eighteen varieties of apples.

H. E. HOOKER & Co., Rochester, thirty varieties of apples and *Easter Beurré* pears.

DONELLAN & NEPHEWS, of Greece, twelve varieties of apples.

JOHN J. THOMAS, of Macedon, twenty-five varieties of apples, including a dish of *Mother*, very beautiful and of the highest excellence; also *Paradise Winter Sweet*, very handsome and good.

TIMOTHY STILLMAN, of Dunkirk, Erie Co., a dish of "*Orange Russet*," an apple not before seen in collections, and of excellent quality.

R. H. BROWN, of Greece, twenty-four varieties of apples, and *Vicar of Winkfield* and *Winter Nelis* pears.

DR. E. W. SYLVESTER, of Lyons, six varieties of apples.

MESSRS. A. FROST & Co., twenty varieties of apples.

JAMES LENNOX, of Rochester, *Northern Spy* apples, and fine *Isabella*, *Catawba*, and *Clinton* grapes.

DANIEL HOLMES, of Wilson, N. Y., a very beautiful seedling apple.

JESSE B. WALKER, fourteen varieties of apples.

JAMES M. MATTISON, of Tompkins Co., a fine collection of apples, including the *King*.

ELLOWNGER & BARRY, thirty-six varieties of apples and forty-three varieties of pears; among the latter the *Easter Beurré*, *Glout Moreau*, and *Vicar of Winkfield* were particularly fine and much admired.

Some I have no doubt overlooked, but a complete account of all will be given in the *Transactions*, to be published soon.* In all, there were upwards of twenty-five contributions,

* The *Transactions* will contain a full account of the proceedings, besides reports from county committees and contributions from experienced fruit growers. It will be an interesting volume.

and all excellent of their kind; and, what is very important, in a fit state to be compared and criticized.

The main subjects discussed were: 1st. Can the cultivation of fruits for market, on an extensive scale, be recommended to the farmers and land owners of Western New York?

2d. If so, what kind or class of fruits, as apples, pears, peaches, &c., are likely to be most advantageous or remunerative under all the circumstances?

3d. How extensively is it safe to embark in the cultivation of Winter Pears?

4th. Is it advisable to plant Pears on Quince for extensive market orchards?

These are questions of vital importance to Western New York at this moment, and I believe that the facts and opinions elicited on this occasion, touching them, will be carefully considered. The destruction of our wheat crop by the weevil, together with western competition, have already prompted some change, and not a few begin to think that Western New York was intended to be a great fruit garden for the large cities.

Towards the close, the following resolutions were adopted, offered by H. C. White, Esq., of Buffalo:—

Resolved, That this Convention confidently recommend to the farmers of Western New York an increased and extensive cultivation of fruit for market, as an easy, sure, and safe means of insuring ample and speedy profits on the amount of capital invested, and the amount of care and labor required.

Resolved, That the cities on the seaboard, interior cities and villages, in connection with the extensive demand at the West for good fruits, render it morally certain that the fruit market cannot be overstocked to the prejudice of largely remunerating prices for many years to come, if ever.

Resolved, That to Apples and Peaches, as crops requiring least care and skill, the general farmer may most easily direct his labors; while the cultivation of choice varieties of fall and winter Pears, the Grape, and Strawberry, offer promise of the most remuneration for well directed labor and skill.

Resolved, That we deem the cultivation of the Pear on Quince stock, under favorable circumstances, worthy of high commendation; but that we cannot confidently recommend its general cultivation among farmers, believing those on Pear stocks will be more safe, longer lived, and insuring, for a series of years, as a general crop, a better return for the labor and capital invested.

Resolved, That to insure the proper return for labor in fruit culture, especial attention will be required to the judicious selection of good varieties, to care and skill in culture, and as of paramount importance to a full knowledge of the best means for ripening, preserving, and marketing fruits of all kinds.

A very short time was devoted to the consideration of varieties, this subject having been already pretty well canvassed in previous conventions. A committee was appointed to name a few fruits worthy of extensive culture for market, and the following were submitted and approved by nearly unanimous votes:—

The following Apples were recommended for general cultivation in this section: King, of Tompkins County, Rhode Island Greening, Baldwin, Northern Spy, Gravenstein, Fall Pippin.

Pears—Bartlett, Louise Bonne de Jersey, Virgalieu, Lawrence, Vicar of Winkfield, Easter Beurré, Glout Moreeau, Sheldon, Flemish Beauty.

I ought to have mentioned that our excellent Secretary, John B. Eaton, of Buffalo, was prevented from attending by a storm; his place was efficiently filled by Mr. R. R. Scott. If the weather had been moderate, I have no doubt the attendance would have been larger than any previous meeting of the kind in this country.

You may therefore record the fact that the Fruit Growers' Society of Western New York is established on a firm basis, and has already given a guarantee of its permanence and efficiency.

HORTICULTURAL SOCIETY OF THE VALLEY OF THE GENESSEE.—The annual meeting of this Society was held at the Court House, in Rochester, on Monday, the 11th ult., W. A. Reynolds, the President of the Society, in the chair.

The following officers of the previous year were nominated, and unanimously re-elected: *President*—W. A. REYNOLDS. *Vice-Presidents*—H. N. LANGWORTHY, D. C. GREENLEAF, N. HAYWARD, JOHN F. BUSH, JAS. UPTON, and ASA ROWE. *Corresponding Secretary*—H. B. HOOKER. *Treasurer*—J. W. WATTS. C. W. SEELYE was nominated and elected *Recording Secretary*.

Mr. Barry presented a notice from the President of the American Pomological Society, proposing the 30th day of September next for the commencement of the Semi-Annual Exhi-

bition of that Society, which is to be held in Rochester. A number of gentlemen thought a week earlier than the time proposed would be more convenient for those residing in the Northern and Western States, who would be likely to be present.

The following resolution offered by Mr. Barry was passed:—

Resolved, That this Society would suggest the 23d of September for the opening of the American Pomological Society, provided this be consistent with previous appointments of like nature.

The chair appointed a committee of ten to make arrangements for the meeting of the American Pomological Society, as follows: L. A. Ward, Hon. John Williams, James H. Watts, D. D. T. Moore, James P. Fogg, Joseph Frost, George Ellwanger, Isaac Hills, H. E. Hooker, C. W. Seelye.

On motion of Joseph Frost, the President of the Society, W. A. Reynolds was added to the Committee.
C. W. SEELYE, Sec'y.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The stated meeting of the Society was held at Concert Hall, January 15, 1856, Robert Buist, Vice-President, in the chair.

Premiums were awarded as follows, by the Committee on Plants and Flowers:—

Collection of Twelve Plants—for the best, to Robert Buist; for the second best, Thomas Robertson, gr. to B. A. Fahnestock. *Specimen Plant*—for the best, to the same, for *Choroze-ma varium*; for the second best, to R. Buist, for *Correa speciosa ventricosa*. A premium of five dollars to R. Buist for three new plants—*Lonicera speciosissima*, *Oncidium sp.* and double *Spirea Reevesii*. *Table Design*—for the best, to Barry Higgins, gr. to D. R. King. *Basket*—for the best, to J. J. Habumehl, gr. to J. Lambert; for the second best, to Mark Hill, gr. to M. W. Baldwin. *Bouquets*—for the best pair, to J. J. Habermehl. *Special premium* of one dollar to Robert Kilvington, for a bouquet. The committee notice a new plant shown for the first time, *Azalea Bealii*, from Mr. Fahnestock.

By the Committee on Fruits. *Pears*—for the best twelve specimens—the “Niles”—to W. V. Pettit; for the second best, to Isaac B. Baxter. *Special premium* of five dollars for a fine display of pine-apples, to Chs. Sutherland, gr. to John Anspach. They notice a specimen of pears from J. K. Mitchell, which they did not recognize, but consider it a very hardy variety.

By the Committee on Vegetables. *Display*—for the best, by a private gr. to Mark Hill.

The Treasurer submitted his semi-annual statement of account to December, which was read and referred.

The amendment to the 9th by-law proposed at the last stated meeting, of striking out the last clause of, “and upon the payment of one dollar and fifty cents,” was adopted, thus furnishing to members the diploma without charge.

Member elected—John K. Neff.

OBJECTS EXHIBITED, not previously mentioned. *Plants* by Robert Buist—*Daphne indica rubra*, *Epacris minuata*, *E. Copei*, *Camellia japonica fimbriata*, *Tillandria thysiflora*, *Cypripedium insigne*, *Begonia incarnata*, *Gesneria oblongata*, *Tritonia uvaria* (new), *Oncidium ornithorynchum*, *Tropaeolum Lily*, Schmidt, and *Kennedy Maryata*. *Specimen*—*Correa speciosa ventricosa*.

From B. A. Fahnestock's—*Strelitzia reginae*, *Justicia parvifolia*, *Eranthemum pulchellum*, *Correa ne plus ultra*, *C. rubra*, *C. speciosa*, *Cytisus onospermum*, *Cypripedium insigne*, *Epacris delicata*, *E. Tauntoniensis*, *Primula albo-plena*, and *Poinsettia pulcherrima*. *Specimen*—*Choroze-ma varium*. New plant—*Azalea Bealii*.

From J. F. Knorr's—Three *Hand Bouquets*, with others noticed above.

ANNUAL MEETING.—At the annual meeting, held January 15, 1856, E. W. Keyser was called to the chair, and J. E. Mitchell appointed Secretary. Tellers were appointed, who reported that the following gentlemen were elected officers for the ensuing year:—

President—GEN. ROBERT PATTERSON. *Vice-Presidents*—JAMES DUNDAS, E. W. KEYSER, B. A. FAHNSTOCK, ROBERT BUIST. *Treasurer*—JOHN THOMAS. *Corresponding Secretary*—THOMAS C. PERCIVAL. *Recording Secretary*—THOMAS P. JAMES. *Professor of Entomology*—SAMUEL S. HALDEMAN, A. M. *Professor of Botany*—WILLIAM DARLINGTON, M. D. *Professor of Horticultural Chemistry*—ROBERT HARE, M. D.

Calendar of Operations.

MARCH.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—This is proverbially a busy month in gardens; much, however, depends upon the state of the weather and the soil. The principal crops should be put in as early as possible. A few days' delay at this time is frequently the only difference between failure and success. Those, therefore, who have duly attended to the draining and aerating of the soil will now reap the advantages of their foresight, in the facility with which they can crop the ground, as there is no gain in cropping before the soil is in a fit condition. Clayey loams require especial care: if they are tramped upon or disturbed while wet, the ground will not recover its friability during the season, but will remain lumpy and crack open in fissures during dry weather, to the great injury of the plants growing in it.

Manure that is applied to early crops should be well decomposed, that its action may be concentrated and immediately effective. Premising that the ground has previously been deeply turned over, the manure should only be lightly dug in: for early peas, horn carrot, parsley, onions, &c., this is a good method; but for crops that have to withstand the droughts of summer, the manure should be put in the bottom of the trench, not less than a foot below the surface.

Among other things requiring earliest attention may be mentioned salsify, onions, parsnips, spinach, turnips, beets, parsley, peas, and potatoes; the two former must be sown early to get anything like a proper crop; for, unless they get a good growth before warm weather, they are severely checked, and onions are by this means frequently not larger than chestnuts.

All garden crops should be grown on the drill system; it is otherwise impossible to do them full justice in culture. A rake should never be employed in the preparation of ground for seed. *This as a rule.* Exceptions may be made in particular cases; but very much injury results from the prevailing system of breaking and raking the ground until it is as fine as powder. Our heavy rains beat such soils into a mortar consistency, and the sun bakes it into a hard crust, through which young plants cannot penetrate. Equally injurious is that old system, which is yet frequently recommended, to trample in seeds. The great feature in cultivation is to keep the soil loose, more especially on the surface, as it retards evaporation of contained moisture, and admits the unimpeded access of the various agents of vegetable growth to the roots of plants.

With regard to the depth that seeds should be covered, it is a safe rule to cover them with a depth of soil about equal to their own thickness. This cannot always be strictly done, but it should be aimed at as near as possible.

Much difficulty frequently occurs in raising young crops in strong soils, from their liability to bake on the surface, as alluded to above. A slight covering of hay or short grass prevents the formation of this crust, and enables the tender plants to get through the surface; but, unless carefully watched, and the covering removed at the exact moment, the crop will run a risk of destruction from its being shaded and drawn up tender. The best material for this purpose that I have ever used is wheat chaff. A slight sprinkling over the drills will prevent injury from rains, &c., and, from its nature, offers no resistance to the future growth of plants. Of course, it is allowed to remain. I know of no superior method to insure a speedy germination and growth of small seeds, such as celery, carrots, &c. Even should the weather prove otherwise unfavorable to their growth, a good crop of young plants may thus be rendered certain.

For early crops the old adage of "sow thick and thin quick" is very appropriate. One pint of peas will sow a row of 60 feet; for late crops the same quantity will sow 100 feet. Carrot, one ounce will sow a row of 150 feet long; parsnip, half an ounce 150 feet; Spinach, one ounce 120 feet; beans, one pint will plant 150 feet of a row; and half an ounce of cabbage, broccoli, cauliflowers, and their allies, will seed a bed of 40 square feet.

Those who have wet, late soils to work on, will find it a great advantage in their early crops of peas and beans to plant them on the surface, and throw a little soil over them with a spade. Thus elevated the plants are in a better position to withstand extremes either of wet or cold.

New plantations of asparagus, rhubarb, and horseradish may be made now. The soil should be trenched eighteen inches deep, and heavily manured. The former is most readily

cultivated when planted in rows three feet apart, plants six inches apart. Two year old plants should be used, or sow seed and thin out as they advance.

Those who have the convenience of a greenhouse, graperly, or even a spare frame, may forward a few dozen pots of sweet corn, peas, or dwarf beans. By doing so, a dish or two of these vegetables may be had several days in advance of the regular crop. The corn should be put out in the ground when about a foot high, the peas and beans when grown three inches. Sow the peas thickly over the surface of the pots, and, when planting them out, separate them gently in the drill. They should be staked at once, which will protect them from frosty nights. The above is the most convenient method of forwarding peas. It is necessary that all crops thus forwarded should be thoroughly inured to the weather, by exposure several days before final transplanting.

HARDY FRUIT.—The extreme severity of the weather that we have experienced has caused great destruction among plants, and much anxiety is felt with regard to its effect on the coming fruit season. These visitations ought to impress fruit growers with the great necessity for close observation in ascertaining the most eligible conditions and localities for orchards. Attention should be particularly directed to insure those conditions that will favor thorough ripening of the wood in the fall; for we may rely upon it that this is the most important, and, indeed, the only practicable preventive against injury from severe frosts. It is well known that many plants which, in their native climates, can endure very low temperatures, are, under our artificial treatment, unable to withstand the slightest frost. We are told that in their natural condition the young wood of these plants is so thoroughly matured as to be as brittle as glass, even to the extreme points of the shoots. This is a most interesting question to fruit cultivators, and, although practice points to various expedients that will assist maturation of the wood, there is no single requirement so essential, or so productive of permanent benefit as thorough drainage, and consequent ventilation of the soil.

Low, sheltered situations are unsuitable for fruit trees, not only from a tendency to prolong growth in autumn, but also from the liability of early action in spring exciting the flower-buds, and rendering them liable to be destroyed by frosts. It might also be worthy of consideration whether orchard trees are not generally planted too thin. By planting 18 or 20 feet apart, instead of 30 and 40 feet, the foliage would in time completely shade the ground, prevent surface radiation of moisture, and the same amount of trees could be set in smaller space. The entire surface of the ground could then be annually mulched by a top dressing of manure, and early in spring, and at intervals during summer, the whole ground kept loose and porous by slight diggings with suitable forks.

RASPBERRIES.—The formation of young plantations may now be proceeded with. A deep friable soil, on a gravelly bottom, with the surface gently sloping, is the most suitable for them. On undrained and retentive subsoils the canes never ripen so as to be sufficiently productive. They cannot flourish in soil destitute of lime. This mineral enters largely into the composition of the cane, and frequent applications of it are required to maintain a healthy and productive plantation. They should be planted in rows four feet apart and two feet from plant to plant, trained on a trellis, as recommended in the last number of the *Horticulturist*. The usual method of tying them up in bundles to single stakes prevents the proper development of the plants, and is ruinous both to the quantity and quality of this most desirable fruit. Old plantations should receive a top dressing of bone dust, lime, guano, or rotted yard manure, forked slightly into the soil. If they are trained to single stakes, thin each plant to four or five good canes; trained to a trellis they should be tied about nine inches apart.

STRAWBERRIES.—Fork over, or otherwise cultivate between the rows, previously spreading on a dressing of superphosphate of lime. The stirring will be a necessary operation from the consolidation of the soil by the long-continued covering of snow. Prepare for new plantations by trenching eighteen inches deep, incorporating plenty of manure. Fine fruit cannot be produced unless the soil is deep, rich, and free of stagnated water in the subsoil. The roots must be allowed to descend, in order that sufficient nutriment may be available at the ripening season. The reverse of this produces those small, flavorless fruits which unfortunately are the rule, instead of, as might be, the exception.

In planting, it must be borne in mind that a due portion of staminate plants are indispensable to success. Upon the whole, it is a question whether any variety can excel Hovey's seedling for general purposes. The Cushing, Boston Pine, and Buist's Prize are considered good staminate sorts.

GRAPERY.—In cold graperies, the vines will be starting to grow towards the end of the month. It is well to retard them as long as possible. The worst feature in cold houses is the liability to injury from late frosts after growth has commenced. It is therefore advisable

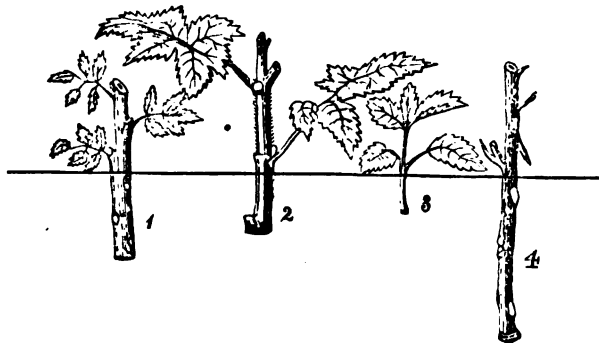
to put in a hot-air flue in all graperies. The expense of a furnace is not worth mentioning, and it is, after all, as simple and efficient a system of heating as any, and decidedly the cheapest. Admit air freely when the weather is favorable; cold, dry winds are to be especially avoided. Keep the vines tied down in a horizontal position; this will retard them somewhat, and cause the lowermost buds to break equally with those situated nearer the top. The border may receive a top dressing of manure, forked carefully over. Keep it as dry as possible until a healthy root action has commenced. Young plants may be raised from eyes; a single bud is sufficient; one in a small pot, which is the best way; or insert them thickly in a large one, or a box. In either case, they require to be set on bottom heat to root freely. They will root without heat, but will belate. Do not over-water them; keep the soil moist, but not wet, until roots form; and take especial care not to cover the bud or eye with soil when putting them down.

FORCING-HOUSES.—Should red spiders make their appearance upon any of the plants, smear a mixture of sulphur and water on the heater. There is no danger of hurting the plants so long as the sulphur does not burn. While the plants are in blossom, syringing has to be in a measure withheld, which frequently allows these insects to gain a footing. When fruit is set, the watering and cleaning of the leaves should be duly attended to, and continued until the fruit changes color to ripen. Strawberries in small pots require a large supply of water. Setting the pots on sods will help to retain moisture about the roots. The soil should be kept drier as the fruit approaches maturity. This will increase its flavor, as well as hasten the ripening process.

CONSERVATORY.—This is distinguished from a greenhouse more from its proximity to the dwelling than anything else, and is a place for the display of plants in flower, rather than for growing them. It therefore requires the aid of a greenhouse to keep up a succession of flowers. When of sufficient size, a few orange-trees, acacias, Camellias, azaleas, myrtles, &c., may be planted in beds. Movable trellis should be provided for the display of flowering plants in pots. A greenhouse temperature is suitable. Such a house ought to communicate with the rooms in the dwelling, everything kept in the most perfect order with regard to cleanliness, and all necessary work performed early in the morning, in order not to disturb that enticing repose and seeming seclusion, which add so much to the enjoyment of these structures.

GREENHOUSE.—Attention should now be directed to the propagation of plants for flowering next winter and early spring. Secure a good stock of *Bouvardia leiantha*, *Cestrum aurantiacum*, *Coronilla glauca*, *Cytisus racemosa*, *Linum trigynum*, *Epiphyllum truncatum*, *Tropeolum Lobbianum*, *Daphnes*, *Polygalas*, &c. It is also a good time to propagate the various hard-wooded plants, so that the young plants may be of sufficient strength to stand easily through the winter. The principle of striking cuttings does not seem to be very generally understood. A cutting is simply a part of a plant taken off and placed in a position to form roots, and become in all respects a living representation of the original from whence it was taken. The "position" in which it should be placed, and the care required, depend upon the kind of cutting and its maturity. The following figures will assist us in a brief description.

No. 1 represents a rose-cutting of half ripened wood, made off a shoot immediately after it has done flowering. No. 2, a geranium-cutting of a similar kind. No. 3 is a point of a young growing shoot, such as the point of a fuchsia, or any side shoot of a growing plant. And No. 4, a gooseberry, grape, or similar plant, after the wood is ripened and the leaves fallen. In the latter case, there are no leaves to extract the sap and disturb its equilibrium; the root-forming process proceeds slowly, but without further care. No. 3 is soft and succulent in all its parts, and furnished with a quantity of tender leaves; consequently is easily



destroyed. Nos. 1 and 2, although furnished with leaves, are more matured in all their parts. While, therefore, No. 4 may be fully exposed to sun and air without injury, Nos. 1 and 2 will require shading from bright sun, and should be placed in a sheltered position such as is afforded by the interposition of a wall or close hedge. No. 3 must not only be shaded from bright light, but placed in an atmosphere saturated with moisture, so that there will be no extraction of the juices until roots are formed. All cuttings root soonest when the soil in which they are inserted is warmer than the surrounding air. The whole "mystery" lies in preventing evaporation and shrivelling up of the shoot until roots are formed. The figures show the particular manipulations required in preparing the cuttings, and the depth they should be placed in the soil. The line represents the surface.

CINERARIAS.—Select the best shaped and most distinct colored flowers for seed. These beautiful plants are indispensable for spring flowers. To get good seed, choose one or two strong trusses and cut out all the others; set the plants in a light, airy situation, and water occasionally with weak guano water.

CALCEOLARIAS.—This beautiful class of plants is much neglected. No one who has had the pleasure of seeing a good assortment would willingly be without them. They require a free, open soil, and no more water than will keep the soil regularly moist. Hybridize them to improve the varieties, and save the seed carefully as it ripens.

PELARGONIUMS.—As these advance to bloom, let them receive copious supplies of water. To flower well, the pots should now be filled with roots. Neglect in watering will therefore injure the flowers. The scarlet sorts are seldom bloomed well in the greenhouse. I lately saw some with large trusses containing upwards of 150 blooms. To produce such magnificent blooms the shoots are pinched close down to the flower stem.

DAPHNE INDICA RUBRA.—One of the sweetest plants in existence, but rarely found in good health. It requires to be grown freely now. Keep warm and well syringed, and but sparingly watered at root. Soil very porous and well drained.

Tropaeolums, Kennedias, and other climbers should be looked over every day or two, and neatly trained to the trellises, otherwise they will soon become unmanageable. Fill up the lower portion of the trellis well at first.

Encourage growth on summer flowering plants, and shift into the flowering pots, such as fuchsias, clerodendrons, achemenes, gloxinias, torenias, gesneras, Chinese hibiscus, &c. Always keep one end of the house closed up at this season, and arrange plants that are making young growths in a group, with the smaller ones in the front, on shelves near the glass. Water always in the morning, and keep a good heat while there is light. If the thermometer does not descend below 35° in the mornings, no fire heat will be necessary.

FLOWER-GARDEN.—To have a good display of flowers during next summer, dig five or six inches of manure eighteen inches deep in the flower beds. If the ground is trenched over and the poor soil brought to the surface, so much the better. The surface soil being poor will throw the plants into flower at once, and this flowering property will be maintained as warm weather increases, on account of the roots coming in contact with the manure below.

LAWNS.—It is of no use to anticipate the enjoyment of a good lawn, unless the soil is made deep and put in the best order. Trench it over two feet in depth, if a small plot: if it extends to acres, put in a subsoil or trenching plough, and let the work be done thoroughly. Nothing less will suffice. There are no half way compromises in this matter.

GENERAL REMARKS.—This is a season when many are stocking their vegetable, fruit, and flower-gardens; a little advice may not be out of place. Be careful, then, of your purchases; buy nothing that is second-rate, and do not hunt after bargains at auction stores. *The best of everything takes up no more room than the worst.* Deal with respectable established nursery-men and seedsmen, men who have reputations to preserve. Make out your lists beforehand, and, if you cannot trust your own judgment, get the advice of some experienced friend on whom you can rely. By doing so you will save your ground, your time, your money, and your temper.



CHANCELLOR PEAR

Parks versus Villages.



EDITOR. "And so, my worthy friend, you are a rural improver, and are planning not a homestead, but actually laying out a village."

Improver. "Ay, and I! The railroad passes through these farms, which I have bought cheap and I am enacting the character of a village."

Editor. "Very good; every citizen who becomes a purchaser will have cause to thank you in the improved health of his family, and their increased enjoyments. What is the price of your lots?"

Improver. "Single lots, twenty feet by twenty feet, at one dollar each, and lots twice that size. In the alleys you see here on the map, I have cut up the land into lots, and it cuts up beautifully!"

Editor. "And, pray, why do you follow so closely the plan of the city?"

Improver. "Because it cuts up the land to so much advantage. I can clear a hundred thousand!"

Editor. "That prospective profit is not so clear to me. There is no advantage you offer; no inducement to leave one closely-packed city to come and find another."

Improver. "Why, my dear sir! look at the prices here and at those in town! I sell now for a dollar a foot on ground rent, while, in the city suburbs, prices vary from six to ten dollars."

Editor. "That may be very true; but, to beginners, you offer neither schools, paved walks, water, nor gas; and as for the price for a good piece of ground, you purchases a dozen of your 'single lots,' and that would be expensive. I am greatly surprised if you have any customers."

Improver. "Really, you are not very flattering! I have seen many a fool there is a fool born every day, and if I can get but one hundred thousand is secure. They won't find fault with me here in town till it is pretty well built, and then I needn't care."

Editor. "I came to see your lots, induced by the prospect of profit. You did not know I thought of becoming a purchaser. Your plan is not so discouragement enough; your unblushing avowal of the profit is apparent on the face of your plan; so, taking no account of the disadvantages, let me point out to you where you are wrong. In the city, the land is large enough to give every householder at least a garden, and a kitchen garden, and a place, besides, for his horse and carriage, without always resorting to the streets. I can see no reason why a man should pocket an hundred thousand dollars from the earnings of others, who can as readily make their own purchases on the line of the same railroad."



Parks versus Villages.



EDITOR. "And so, my worthy friend, you have turned rural improver, and are planning not only for your own homestead, but actually laying out a village?"

Improver. "Ay, am I! The railroad from the city passes through these farms, which I have purchased cheap, and I am enacting the character of a *founder*."

Editor. "Very good; every citizen who becomes a purchaser will have cause to thank you in the improved health of his family, and their increased enjoyments. What is the size of your lots?"

Improver. "Single lots, twenty feet by one hundred; double lots, just twice that size. In the alleys you see here on the plan, the plots are fifteen by sixty. It cuts up beautifully!"

Editor. "And, pray, why do you follow so exactly the plan of all rectangular cities?"

Improver. "Because it cuts up the land to so much greater profit. I mean to clear a hundred thousand!"

Editor. "That prospective profit is not so clear to me. I can see no advantage you offer; no inducement to leave one closely-packed city to come and found another."

Improver. "Why, my dear sir! look at the prices here and at those in town! I sell now for a dollar a foot on ground rent, while, in the city suburbs, prices vary from six to ten dollars."

Editor. "That may be very true; but, to beginners, you offer neither good schools, paved walks, water, nor gas; and as for space for a garden, except one purchases a dozen of your 'single lots,' and that would be expensive, I shall be greatly surprised if you have any customers."

Improver. "Really, you are not very flattering! I go upon the notion that there is a fool born every day, and if I can get but one year's crop into my net, the hundred thousand is secure. They won't find out that it is to be a crowded town till it is pretty well built, and then I needn't care."

Editor. "I came to see your lots, induced by your flaming advertisement; you did not know I thought of becoming a purchaser! A glance at your map was discouragement enough; your unblushing avowal of your selfish purposes is apparent on the face of your plan; so, taking no advantage of your declarations, let me point out to you where you are wrong. In the first place, this broad continent is large enough to give every householder at least room and verge enough for a kitchen garden, and a place, besides, for his children to play in, without always resorting to the streets. I can see no reason why you should pocket an hundred thousand dollars from the earnings of others, when they can as readily make their own purchases on the line of the same railroad."

Improver. "I beg your pardon; this is the nearest land to the city that can be bought in this way. Besides, you see I have left lots for a church and a public square."

Editor. "A public square! Why, truly, it is a square; but it is not large enough to pasture a single cow, much less to serve as a healthful promenade for a closely packed public. You should have left acres instead of feet, laid it out tastefully, and planted it with a great variety of the best and most beautiful trees."

Improver. "Ah yes! you don't catch me paying out cash for such things as those! I have enough to do to persuade people of the advantages I offer. I have an office in town for this purpose, and advertise in all the papers."

Editor. "Advantages! You mean to say, you design to take advantage of your purchasers! Now, this is all wrong. Shall I tell you what you ought to do? It is not too late, and if you will follow my advice, you may dispense with your office in town, and the people will come to you."

Improver. "Ah! I wish you could bring that about."

Editor. "Nothing easier. There is an appreciation of beauty underlying all the rough natures and busy merchants, which, if once awakened, is sure to respond to a good leadership. The ladies, too! Why surely you can have few advocates for your plans among those best portions of the creation. And, without the ladies' approbation, depend upon it, you can accomplish nothing. What you want is, first, to burn your map; get a surveyor and a landscape gardener (a real one, I mean) to lay out your farms according to some well-established principles. Don't think of levelling that knoll! It would be preposterous."

Improver. "Excuse me! how should we fill up that ravine?"

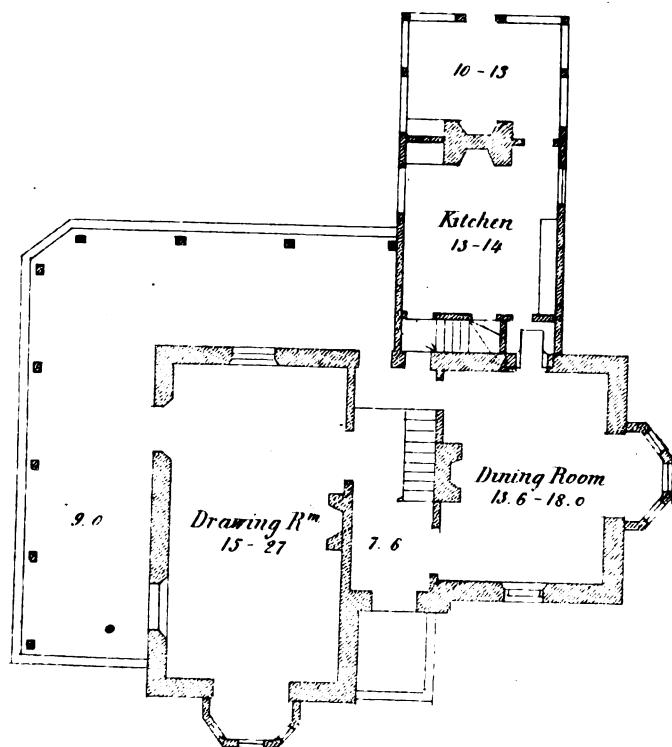
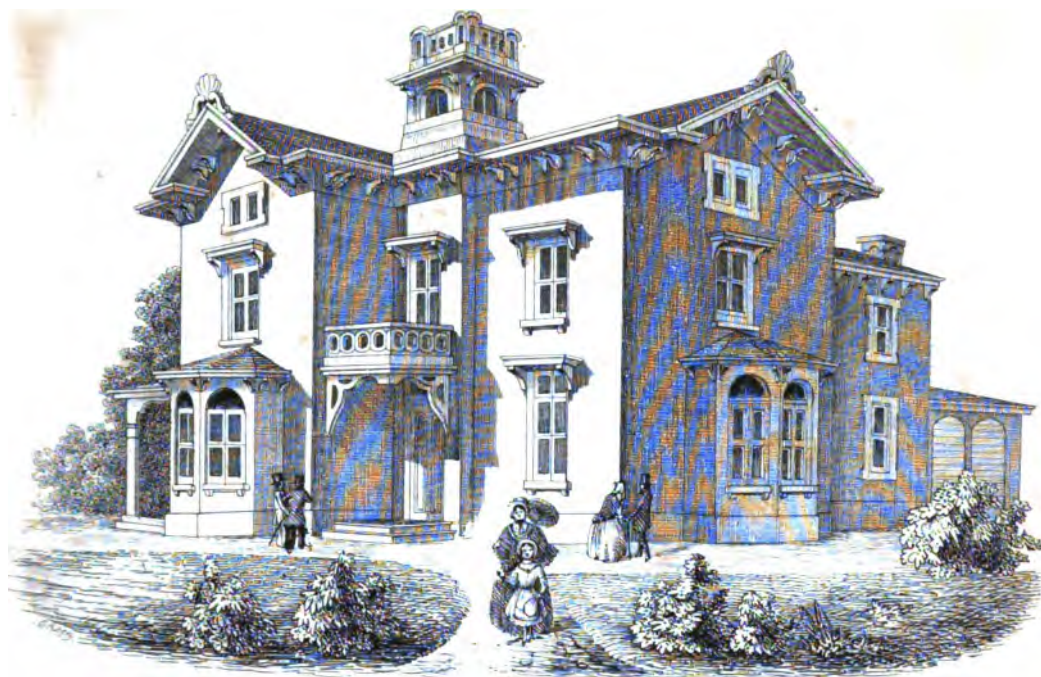
Editor. "There is no occasion to fill up that ravine; to do so you would be obliged to throw an arch over the whole of that beautiful stream of water, and bury one of your best resources for beautiful results. You must build a strong, sound dam, and create a lake."

Improver. "A lake! O dear! who would ever buy water lots?"

Editor. "Keep them, then, yourself, and agree, when you have disposed of one hundred lots, to present the lake to the residents. Place suitable trees around it; border with shrubbery and an intricate walk; place, if you find it will answer, a small island in your lake; plant a rustic bridge to it, and fill it with the choicest shrubs and flowers. Let every purchaser have a key to the whole, and my word for it, you will get more for your whole plot, if your other improvements correspond, than for your abominable city lots, with the old arrangement of alleys in the rear."

Improver. "And pray, what would be the other corresponding improvements? I begin to comprehend you."

Editor. "Nothing more palpable. Plant out your boundaries judiciously, say with Norway firs, to be kept down, after a few years, by cutting off the leaders; make a properly curved drive through the place, which shall approach in its gentle sweeps every acre or half-acre of the *park*! Yes, a park, for the residence of



COTTAGE BUILT AT GERMENTOWN PA.
 FOR E. TAYLOR FSQ R. MOFFET SMITH ARCHTCT. YANPOTOWN PA.

reasonable human beings, who have enough of city when they are obliged to go to it for shopping. Let every plot be in itself a rural home, so contrived that its owner can pluck his own fruit, keep his own pony phaeton, if he pleases, and look out of his windows without seeing brick houses."

Improver. "I never thought of this. I will make a little calculation, and see if it will pay."

Editor. "It will surely pay, and you will be remembered as one of the choice spirits of your age, instead of being—*nobody!*"

THE CHANCELLOR PEAR. *

Synonyms.—Green's Germantown—Early St. Germain.

THIS truly delicious pear, probably an accidental seedling of the St. Germain, originated at the country residence of Wharton Chancellor, Esq., on Schoolhouse Lane, Germantown, now within the limits of the city of Philadelphia; the original tree still stands on his premises, within an inclosure of evergreens, and is probably more than fifty years old. Specimens of the fruit from a grafted tree in the garden of Mr. Joseph Green, of Germantown, were, for the first time, exhibited at the annual Fair of the Pennsylvania Horticultural Society in September, 1848; and to this variety was awarded the premium offered by the society for the best seedling pear exhibited in 1849. *Size* large, $3\frac{1}{2}$ to 4 inches long by $2\frac{1}{4}$ to 3 inches broad; *form* long, obovate, inclining to pyriform; *skin* dull green, with numerous green and russet dots, some russet markings, and occasionally a faint, speckled, warm brown cheek; *stem* $\frac{1}{2}$ to 1 inch long by $\frac{3}{8}$ thick, inserted in a small, irregular cavity, usually elevated on one side; *calyx* small, open, set in a plaited shallow basin; *core* medium; *seed* $\frac{1}{2}$ of an inch long, $\frac{1}{2}$ broad, $\frac{1}{4}$ thick, light brown, acuminate, full at the obtuse end, on one side of which is a small angular projection; *flesh* of fine texture, buttery; *flavor* rich and exceedingly agreeable, but by some it may be considered too saccharine, which, in our opinion, should never be viewed as an objectionable feature, since the saccharine quality is the first to show its deficiency in defective soils, unpropitious seasons, or under poor cultivation; *quality* "very good," if not "best;" *maturity*, last of September and beginning of October. It keeps well and ripens handsomely, without decaying at the core. Leaf lanceolate; young wood, slender, yellowish brown; growth spreading.

It does well on the quince, but better on the pear stock, as is mostly the case with all recently obtained varieties from seed.

To Doctor W. D. Brincklé, who has devoted so much time, skill, and patience in discovering and bringing into notice some of our finest fruit from Pennsylvania, Delaware, New York, and the South, we are indebted for the knowledge of this valuable variety.

The specimen delineated is rather middle sized; we have seen many larger, grown on the original tree.

* See Frontispiece.

PEAR CULTURE.—No. 2.

BY DR. J. M. WARD, NEWARK, N. J.

OUR favorite mulch for the pear—both standard and on quince—is the coarsest unfermented manure the stable and yard can furnish, and applied, invariably, in the fall of the year, that the tender rootlets may be preserved from the injurious influences of the extreme and sudden vicissitudes of temperature through the winter, at the same time that the soluble parts of the manure, dissolved by the winter rains, may be carried to the rootlets that have penetrated deepest in the soil.

The same manure, applied in the spring, enriches simply the surface rootlets, while the greater portion is dissipated under the evaporation, which is so actively carried on during the spring and summer months.

When liberally used, the undecomposed portion remaining in the spring acts the part of a simple mulch, protecting the surface soil around the tree from the action of the summer's sun. So much importance do I attach to this, that these circles are made the receptacles for all the waste vegetable matter that can be collected on the farm. It may possibly be owing to the protection thus given that I have never seen a pear-blight in the orchard.

A part of my trees received last spring, for the first time, a dressing of leather parings from the leather manufactory, with the operation of which I have been much pleased. The supposed influence of the mulch in securing an increased size of the fruit was first suggested by an experiment with some peach-trees that occupied a neglected portion of the orchard, which was suffered to be overgrown with weeds. When pulled, they were deposited around the trees, in their green state, in such masses as to secure rapid decomposition, and thus preserved in a state of moisture the surface of the soil, while all around, the earth was parched with drought. The fruit (Crawford's late) attained to one-third greater size than ever before grown, and they reached their maturity so much later than ordinary, as to give me a supply much longer than usual, and a quantity for the market when there was no other in competition with it.

The physiological explanation of the fact is found in the preservation of the requisite moisture for the tree to elaborate the sap necessary for the continued vigor of the foliage, and perfect development of the fruit. Having said thus much of the treatment, let us turn to the character of the fruit; and should my description of their qualities seem to some too highly colored, and to others to be contradicted by their experience, I beg such to remember that very much must be credited to the character of the soil, it being a gravelly loam, overlaying an absorbing subsoil in which the pear delights, inasmuch as it rarely suffers from drought, or from excessive moisture.

The uniformly high flavor of all the smaller fruits, particularly the strawberry, which seems indigenous to this soil, has convinced me that some of the qualities of the pear, particularly the *flavor* and *aroma*, depend more upon the physical constitution of the soil than we have been wont to think.

If this is not so, the fact to me is inexplicable, that not a solitary pear accredited good has failed, on my grounds, to sustain that character.

Dearborn's seedling, predicted by some as but a forerunner of better ones, has proved of excellent flavor as well as a pear of great beauty; its waxy surface of clear yellow, beautifully broken by the minute specks dotted over it, endear it to the amateur, and commend it to the casual observer. When ripened in the house, it has been so uniformly good, fine-grained, juicy, melting, and of delicious flavor, that I cannot understand how the Dearborn can sustain any other character. It bears uniformly large crops, and ripens through a long period—in New Jersey, the finest of all the early pears.

Oswego Buerré has fully sustained its reputation as a brisk, rich, and excellent flavored pear, not unlike the Doyenné in its buttery, melting character—so peculiar has been its flavor as to remind one of the aroma of the *Rose Geranium*. It comes early into bearing, but, I fear, its size, in New Jersey, will be rather below medium.

Louise Bonne de Jersey, always a good mid-autumn pear; to most, gratefully subacid, very juicy and rich.

Bartlett—a Bartlett still. This season, this universal favorite was so abundant as to depreciate materially its market value, and faintly shadow forth that "good time coming," predicted by our friend, "B., of New Jersey," when good pears shall be so abundant as to bring them within the reach and enjoyment of every man.

Hacon's Incomparable.—Its melting, buttery, subacid character, and delicious flavor, are such as lead me to say—if it belongs where it has been placed, in the class *good pears*—it deserves to be at the top of the list. The fruit is large, and uniformly smooth and fair.

Vicar of Winkfield, though coarse-fleshed, of good size; when fully ripened, of good flavor, and of a fine, yellow color. A part of my crop has been somewhat astringent, the result, doubtless, of premature gathering. It is evidently not adapted to a northern climate, as a too short season of growth will give full one-half of the crop immature at the period of gathering. Or, this character of the fruit may be owing to a too great luxuriance of growth for the first few years after it comes into bearing. No variety has given such a vigorous growth of shoots, causing the tree to exhibit almost a fantastic appearance. The fact that the *wood* and *force* principles are antagonistic forces—the predominance of one repressing the other, may satisfactorily explain this phenomenon. Observation alone, with the increasing age of our orchards, must, however, settle this question.

Duchesse de Angoulême.—Large, uniform in size, of high flavor, and juicy; as regards its market value, deserves to be ranked No. 1.

Swan's Orange—Onondaga.—Its fair, smooth skin, of pale yellow, and when fully ripe, rich, golden color, makes befitting the expression *magnificent* in color as well as in size, of rich, juicy, and aromatic flavor, with flesh fine-grained and buttery. When better known in our cities, will rival the Duchesse. It has less

tendency to rot, and is a most vigorous grower on its own stock, and, uniformly, an abundant bearer. Maturing between the Bartlett and Buerré Diel, it seems to unite the characters of both. Ripening at such a time, when nothing is comparable to it in size, commends it particularly to the market grower as an orchard pear.

Columbia.—The white, melting, buttery flesh, not wanting in richness, and of delicious flavor, combined with the thin, smooth skin of a *lemon yellow*; with great luxuriance of growth in the tree, bearing uniformly abundant crops, and hanging well, in spite of high winds, to the period of maturity, has led me to purpose working many of my trees, the coming spring, with this variety. No pear, all things considered, has given me greater satisfaction; its great beauty and sterling worth highly commend it to the orchardist as a market pear.

White Doyenné—St. Michael's.—Now five years in bearing; the first year gave fair fruit, entirely free from cracks or specks upon its surface. Since then, no tree out of about a dozen has borne a crop of fair fruit. While, on one side of the tree, the fruit would be badly marred, on the opposite, a part only would exhibit the disease; and some specimens would be quite fair. On other trees, no fair fruit would be observed; and yet, all the trees have made, from year to year, a growth of wood equal to the Louise Bonne of Jersey, and retained their foliage of healthy color quite as long as any variety in the orchard. The fruit on the sides of the trees facing the northeast, were uniformly marred—so as to suggest the atmosphere¹ as the cause or the medium of its transmission. Is there, from any quarter, light as to the nature of the disease, giving promise that we shall ever enjoy, in perfection, this noble fruit in our stricken region.

The *Belle Lucrative*, often reported as indifferent, and of poor quality, with me has uniformly proved exceedingly rich, melting, and of high flavor, with a juicy flesh of fine texture. None has been more honeyed—fully equalling, in this respect, the Seckel. It has exhibited a tendency to overbear. When properly thinned, the fruit is uniform in size, and large. The Seckel, Winter Nelis, Easter Beurré, Glout Morceau, and Beurré Diel, merit the praise awarded them.

(TO BE CONTINUED.)

ORNAMENTAL TREES—THE COTTON-WOOD.

BY LEWIS F. ALLEN, BLACK ROCK, N. Y.

MY northern readers may not recognize this well-known tree under this popular name, which it commonly bears in the Southwestern States. It is the *Populus Canadensis* of the books.

There are two or three varieties of this family of Poplar. They are frequently called "Balm of Gilead" by country people; yet they are the true cotton-wood,

¹ The prevailing storms, during the autumnal months, are from the northeast.

called so, probably, from their shedding a short, cottony fibre from the pod inclosing their seeds, which, in this latitude, 45° north, is about the 20th of June.

When in good grounds, it is a noble, stalwart tree, attaining the largest size, with a high, spreading top, the limbs striking out at some distance apart, the leaf heart-shaped, and about three inches broad, and, like other poplars, with a tremulous, vibrating motion in the slightest breeze. It luxuriates in a free, open, moist soil, and, in river bottoms, is unsurpassed in size and grandeur. It grows thriftily in all good uplands, preferring a clayey loam, but not averse to even thin and hungry soils. On the deep and rich alluvions of the western rivers, I have seen young trees, of a single summer's growth, fifteen feet high. The upper wood of the limbs is sometimes brittle, and more liable to break in tempests than the elm; yet they withstand the winds quite as well as most others. They are tenacious of life, and bear mutilation of the roots, in transplanting, with little injury to their growth. The color of the stems and branches is a light drab, producing a beautiful contrast with the elm and maple; and, although not affording so dense a shade as they, yet sufficient for all common purposes. To produce a *rapid* covering, no tree is its equal. For avenue, lawn, or front planting, they should not be abundant; yet, thrown in occasionally with others, in spreading grounds, their effort is noble and imposing. Like the Lombardy poplar, standing alone, they are a conspicuous land-mark, partaking of the grand, while the other is picturesque. In February and March, they throw out numerous clusters of brown flower buds, and leaf out with the earliest, while they retain their foliage among the latest of our forest trees. Near a stable, a barn, or an out-building, they produce a fine effect, withstanding the rubbing and tramping of animals, and throwing their shadows far and wide, while their strong and hardy habits are in keeping with the homely uses of the buildings they thus adorn. They should not be planted in too close contiguity with the dwelling, as their strong roots will penetrate under the walls, if not laid deep, and with strong mortar; yet, at a distance of fifty or a hundred feet, they give no inconvenience. Song-birds love to perch on their lofty limbs, and sing by the hour among their fragrant tops, for they are delightfully fragrant when in flower, and, at this time, are enlivened with the constant hum of bees. I have a noble one near my stable, sixty feet high, and about thirty years old, in which a pair of orioles have nested for several seasons, swinging their cosy habitation from one of the high outer limbs, and taking a world of delight in trilling out their songs on a sunny morning.

Of a rapid growth, no tree will form so ready a shade as this, and, to cover a naked spot, they are the most available. They are wonderfully suited to prairie planting in the west, both for protection and fuel: and, as adding to variety in any grounds, the use of the cotton-wood should not be neglected. Flourishing, too, as they will, in all the climates of the United States, they can be safely adopted everywhere on our farms and pleasure-grounds, with a trifling cost. Nurserymen should plant them, and they should be cheaply distributed; and, although they will both grace and ennoble the grounds of the rich, they can as well ornament

the dwelling of the lowly. For school-grounds they are particularly appropriate. *They can stand the boys*, and throw a grateful shade over their wild gambols while bearing strongly up under their reckless embraces.

[Though Foucault, who studied this tree, calls it more picturesque than the Carolinian, we should not venture to recommend it in any plantation of an artistic or very select kind. For rapid growth and early flowering, it is only rivalled by the *Populus grandidentata*, a very interesting tree, both for the character of its head, and for its peculiar colored bark. The cotton from the flowers may be objectionable near a dwelling. The fine avenues in the lower parts of the garden at Versailles, are of this species.—Ed.]

DOWNING'S FAMILIAR LETTERS.—(CONCLUDED.)

No. III.

A LITTLE playful suggestion that he had grown in favor with newer friends, brought the following reply :—

NEWBURGH, March 17, 1850.

MY DEAR FRIEND : If it were not for this horrible storm, I think I should endeavor to see you this evening at the Astor House.

If I have, as you say, been unusually silent lately, it is because I have been "immersed in affairs," and *not* because I have been busy with new friends ; for I have never sat so unceasingly at my writing-table as for the past three months, and I hope I shall soon have something to show for it.

You are, I hear, going again to England. If you stay long enough to run about a little, cannot you give me a letter or two of *Parkomania* for my *Horticulturist* ? This is, I believe, all I have to ask, though I may perchance address you a letter to the care of your London Banker's, after you have sailed.

Yours, with esteem,

A. J. DOWNING.

NEWBURGH, March 22, 1851.

MY DEAR SIR : I was so unlucky as not to get your letter till after it was too late to profit by it. I reached Philadelphia somewhere between midnight and daylight that Saturday evening, and after taking a decent allowance of rest, I promised myself the pleasure of spending part of the day (Sunday) with you. But, to my great disappointment, no railroad cars ran to Germantown on Sunday, at least, not till five o'clock, and, on inquiring about a carriage, I found they asked the moderate price of \$7 to take me and bring me back—more than I could afford. So I reluctantly wasted my time till the afternoon train. But I don't despair of sitting under your roof yet. If I had got your letter in time to have written you, and found your chaise in waiting, all would have gone quite right.

If you have any time to bestow on a friend, won't you send me eight or ten plants, if you can spare them, of the Giant Ivy you were so good as to promise

me? and, also, command me touching some choice fruit trees, if you think I can be of any service in that matter.

Yours, with esteem,

A. J. DOWNING.

To J. JAY SMITH, Esq.

NEWBURY, April 10, 1851.

MY DEAR FRIEND: The Ivy plants have arrived in the best order, much to my gratification. I went up to the nursery, and selected the fruit trees myself; they will reach you this week. If you will have large holes prepared for them in your garden, with plenty of leached ashes, and lime-rubbish, and manure in the soil, I will warrant you to have the finest fruit. Your Philadelphia soil is worn out in the mineral food, that is all.

One bushel lime rubbish from old walls, &c., and a barrowful of leached ashes to each tree; hole, three feet wide, twenty inches deep.

I am just on the wing for Washington. Pray drop me a line on receipt of this, saying if you will be at home about the middle of next week, and believe me,

Yours sincerely,

A. J. DOWNING.

To J. JAY SMITH, Esq.

WASHINGTON, April 16, 1851.

MY DEAR FRIEND: I believe I must give up reaching your house, at present, in despair, as the fates are against me. The weather has delayed my operations here so much, that I cannot leave till Thursday; and I have letters from home which will force me to go on directly. There are a number of matters that I want to consult you about, and I regret sincerely that I must lose another hoped-for opportunity.

Yours, sincerely,

A. J. DOWNING.

To J. JAY SMITH, Esq.

WASHINGTON, Oct. 30, 1851.

MY DEAR SIR: I thank you most heartily for your letter and the communication.

* * I did not know, till a few weeks ago, that you were in the country—supposing you again amusing yourself in Europe.

I hope to be able to spend a night at your house on my way home, and will let you know a day beforehand. I wish very much to see and have a long chat with you.

I am deeply immersed in practical works—architectural and rural—turning my theories into practice all over the country.

Sincerely yours,

A. J. DOWNING.

J. JAY SMITH, Esq.

Col. Eastwick, the present proprietor of Bartram's Garden, had requested us to engage Mr. Downing's services in laying out the additional ground near his superb mansion, but Mr. D.'s engagements were too numerous to comply. He then charged twenty dollars a day and his expenses, for engagements of this kind, and was constantly obliged to decline new ones.

In the midst of this great and unrivalled success, he was cut off, and the country deprived of services such as were greatly needed in our growing prosperity.

The following was the last note we find from this admirable man, graceful writer, and warm friend. In the summer of 1852, he was numbered with the dead, taken, as we are fain to think, prematurely from the midst of his usefulness :—

NEWBURGH, March 29, 1852.

MY DEAR FRIEND : I am, during this whole month, so deeply engaged, that I fear I shall have to decline Colonel Eastwick's commission, however reluctantly. I really begin now to despair of seeing you at Germantown. I have made three decided efforts to do so ; the first last fall—when I was taken ill, in Philadelphia, with the pleurisy, and kept two days at the U. S. Hotel, glad to crawl home as soon as possible. The second time, this spring—but was laid hold of by a gentleman in Baltimore, on my way there, who would have the time on his place that I meant to devote to you. I am really a man of no leisure—except *after dinner*, at home. I wish I could show you my "Bureau of Architecture," in my new wing of my residence—full of commissions, and young architects, and planning for all parts of the country.

I am *en route* to Washington, to-morrow—planting some fine trees from England at this season.

Your friend,

A. J. DOWNING.

To J. JAY SMITH, Esq.

THE TWELVE BEST EVERGREEN TREES.

BY THOMAS MEEHAN.

THE question has been asked me, "what twelve evergreen trees would you recommend as best adapted to general purposes?" It is rather a difficult question to answer satisfactorily, as, under some circumstances, one particular kind would be preferable to another. Where there is plenty of room, a strong grower would be better than one of humbler aspirations, and one might look wonderfully well on a hill-top, that would look very indifferent, or out of place on a level piece of ground.

But, taking all things together, for "general purposes" I would place as

No. 1, the *Norway Spruce*.—It is a peculiarly useful tree, its character adapting it to highly artistic scenery, and, at the same time, to wild and rugged situations, in either of which it has a very grand effect. In places where it is not an object that the general effect should be of the first order in an artistic point of view, the *Norway Spruce* is very valuable. Nothing can excel it as a fast growing evergreen for a screen to shut off disagreeable views, or afford shelter from cold winds. It will also bear the shears tolerably well, and make a very fair ornamental hedge, though, in that respect, not equal to

No. 2, *Hemlock Spruce*.—This, I believe, all landscape gardeners concede to be the handsomest of evergreen trees. The *Hemlock* looks well anywhere. It does not do well, however, in stiff, heavy soils. As a single object on a lawn, there is nothing to go ahead of it, unless, perhaps,

No. 3, the *Deodar*.—It is still a question with many arboriculturists, whether this ought to be considered a *perfectly* hardy tree. So far as my own experience goes, I should decidedly say that it is. The season of 1854-5 is an extreme case. That in some few and unfavorable locations it was killed, proves nothing against its general hardiness. My own specimens, entirely unprotected, and in soil which many would call wet, were quite uninjured, while, not a hundred yards from them, some Balm of Gileads, probably twenty years old, lost many of their smaller side branches; yet, who would pronounce the Balm of Gilead a tender tree? The *Deodar* is a very rapid grower, more so than the Hemlock, though not equalling the Norway. Its gray color gives an interest to it, which ornamental planters seek to take great advantage of, and thus, though thousands are annually imported, it still continues scarce.

No. 4, *Balm of Gilead*.—There will, I am sure, be many who will be inclined to dispute the propriety of placing this fourth on my list. It is, however, a first-rate tree for small gardens, where soil is deep and rich. In poor soils, it becomes a poor, pitiful object, and it is when seen in such situations that it receives such a general condemnation. It seldom grows more than forty or fifty feet high in this latitude, and is a very useful tree to plant by straight walks in confined situations, with which it harmonizes extremely well.

No. 5, *Silver Fir*.—Though this is one of the most beautiful of our stiff-growing, formal-looking evergreens, I am not quite satisfied in placing it before the next, for "general purposes." It is a tree to be looked at only. It will not associate well with other trees, nor do they make a good group of themselves together. As single specimens on lawns of some extent, and contiguous to large mansion-houses, or elegant buildings of any kind, it cannot be surpassed.

No. 6, *White Pine*, is a very valuable tree, though, like the Balm of Gilead, it is liable to get a bad character when grown on poor or improper soils. It is a kind that *loves* manure. In a moist, rich loam, it grows very rapidly, and forms a beautiful object as it grows. When growing in partial shade, it soon becomes unsightly. It glories only in the light; where this can be commanded, and plenty of space afforded, plant the White Pine—under other circumstances, it is not so desirable.

No. 7, *Austrian Pine*.—A very rapid grower, and one that looks well in even poor soils. It has too coarse an appearance when in confined situations or small places, but where there is anything like room, it is in good keeping. It is being very extensively planted in country-seats.

No. 8, *Scotch Pine*.—Very valuable in poor, rocky, or sandy soils, where few other evergreens will look well; though it also will show its gratitude for a few barrowfuls of good leaf soil, thrown into the hole prepared for it.

No. 9, *Bhotan Pine*.—Though not many years since introduced from the Himalayas, is becoming a general favorite. It resembles the white pine, but has longer leaves, and of a silvery whiteness, and is adapted to pretty much the same localities and conditions.

No. 10, *American Arbor Vita*.—As a small tree for small gardens, this is very desirable; it will do better in poorer soil than the succeeding. It also makes very handsome, ornamental hedges.

No. 11, *Chinese Arbor Vita*.—Does well only when growing in a deep, rich loam. Then it makes a very handsome, small tree, having, for its only fault, a tendency to become brown in winter. In poor soils, it is a poor looking tree, indeed. When it gets to this condition, if the branches be pruned within a few inches of the trunk, and the soil around the roots dug up and manured, it makes a very handsome object, indeed. On the grounds of G. W. Carpenter, Germantown, Penna., where the soil seems congenial to it, it forms some of the handsomest small trees that are to be seen within many miles.

No. 12, *The American Holly*, which I am sorry to put last on my list for "general purposes;" I am, nevertheless, bound to say, is not inferior in beauty to any of the others. Indeed, I do not know of anything which, in its season, is more beautiful than an American Holly in prime health, and covered with its fine, scarlet berries. It thrives either in sun or shade, and especially in a moist, sandy loam. Though very hardy, it is much benefited by having its roots protected in winter. A few inches of long manure, or leaves, is all that is required. It makes a very beautiful evergreen hedge, and to raise seed for this purpose, they must be kept constantly moist from the time of sowing. If once allowed to get dry, the outer shell hardens, and they will often lie several years in the ground before growing, if the mice, which are very fond of them, leave them untouched for that period.

These twelve evergreens that I have recommended for general purposes, are amongst some of the commonest, I admit. Many of the rarer ones will doubtless compete favorably on more extended trials; but these have yet to be made; and it has therefore fallen to my lot to describe what is *now* rather than what *will be*.

[Mr. Meehan has experience, but we must differ from him in placing the Balm of Gilead so near the top of his list—if, indeed, it should be placed there at all. Under highly favorable circumstances, it has a period of great beauty; it is but brief, however, in this vicinity, and, after twenty years, it becomes a "shabby fellow," whose bad clothing a well-trained dog would bark at as belonging to a beggar. With this exception, the list is a good one; and we would substitute for the Balm, Cedar of Lebanon, or *Pinus excelsa*.—Ed.]

THE FUCHSIA.

BY T. APPLEBY.

It has frequently been a matter of surprise to me that the lovely, elegant, long-blooming Fuchsia, has not been more planted in masses in the bedding-out gardens. I am sure it has everything to recommend it. In the first place, it is easily kept through the winter; all that it requires is to be kept moderately

dry and free from frost. It may be kept alive in a dry room; in a dark cellar; under the stage of the greenhouse; in cold pits or frames, without any covering; or even will keep alive if buried under a heap of coal-ashes. It is easily propagated; every cutting will grow if taken off very young, planted in sand, and placed in gentle heat, under a hand-glass. Then, again, it may be planted out as early as May, and will flower till frost comes. It grows dense, and flowers most profusely, producing its coral-like blossoms most constantly. Surely, all these good qualities ought to induce flower-gardeners to patronize and cultivate this charming plant more than they do. The fact, however, is, that varieties are planted out that are utterly unfit for that purpose. Because a variety, grown in a pot in the greenhouse, produces there extraordinary flowers, it is thought fit for the flower-bed. It is then planted out and fails, flowering only for a short time. Now, to plant such large-flowering varieties not only leads to disappointment, but throws a slur upon the Fuchsia that it does not deserve. These ideas frequently passed through my mind when customers came in for bedding-plants, and almost invariably passed by the Fuchsias, because, they said, they did not flower enough. What a mistaken idea! Choose the right varieties for bedding, and no plant—no, none whatever—flowers more freely.

I have seen Fuchsias in the open air, with stems as thick as my wrist, and higher than any man I ever saw, as full of flowers as ever you saw an Oak-tree full of leaves; and I did not travel into their native country, the mountains of Chili, to meet with such splendid specimens. No; I only crossed the sea from Fleetwood, in Lancashire, to Belfast, in Ireland. There, in a garden at Holly-wood, I saw *Fuchsia coccinea*, *F. conica*, *F. fulgens*, and *F. macrostemon*, of immense size, growing in the open air constantly. It is true that locality is near the sea, and, consequently, the frosts are neither severe nor lasting; but that says nothing; such plants could be kept alive in any cultivated part of Great Britain with such protection as I have mentioned above.

In the warmer parts of Britain, the Fuchsia will live out constantly, though, in severe winters, it will generally be cut down to the ground; therefore I would recommend them always to be taken up and stowed away, in preference to leaving them in the ground; and for these reasons—they are not sure to survive a very hard frost. If they do, they form such rank bushes that they are far from being handsome, and, beside that, they do not all grow alike. Whereas, if they are taken up and stowed away, the ground or beds may be well trenched; the soil renewed, if necessary, and the plants put out in such positions, according to their strength, that the tallest and strongest will be in the centre of the bed, and the weakest at the sides, so that they will form a kind of amphitheatre of flowers when in bloom, and every plant will be seen. So grown, no plants require less care. They grow thick enough to choke up all weeds. The foliage shades the ground, so that the sun has no power to dry up or parch the land, and they require no water, and are less subject to be preyed upon by insects than any plant I know. With these hints and praises, which, I trust, will induce many to try Fuchsias on

a larger scale than they have done, I now proceed to give my list of such kinds as I know will answer for bedding purposes.

FUCHSIA COCCINEA.—This is the first Fuchsia that was introduced into Great Britain. It has small leaves, and rather small flowers; is very hardy, and blooms profusely.

F. CONICA.—I fear this species is almost out of cultivation. I know none so fitting to form standards, because it has such a robust, tree-like habit. Planted in the centre of a bed of Verbenas, or other low-growing flowers, such standards break the tame, level line, and give a graceful variety, in form, to the general aspect of the flower-garden.

F. CORALLINA.—A well-known, strong-growing variety, suitable for a large bed, or to train up to a single stem, to form a weeping tree. The stems and leaves are peculiarly handsome.

F. GLOBOSA.—I do like this good old Fuchsia with its scarlet globes. It is peculiarly suitable for bedding; flowering freely, even when not more than four inches high; hence, it is a proper sort for smallish beds.

F. FULGENS.—This is one of the large-leaved species, with long, ear-ring-like drops of flowers, produced in heads at the ends of the shoots. Grown three or four feet high, with woody stems; kept alive for years in some back shed, or under the greenhouse stage, and planted out in spring. I know no plant more showy through July, August, and September.

F. GRACILIS.—A rather tall, slender-growing species, but a most abundant bloomer, with elegant, long-tubed flowers. Very attractive for a long season.

F. MICROPHYLLA.—The most dwarf of all Fuchsias, with beautiful stems, leaves, and flowers. It is a little gem for a small bed; but requires the greenhouse in winter.

F. RICARTONII.—This is, without doubt, the hardiest of all the genus, and, as it has small leaves, it shows off its blooms most perfectly. It is the most proper of all for bedding, though it will, if the soil is too rich, grow to a large size.

[Any experienced florist can apply these remarks from the Cottage Gardener.—ED.]

TRANSFORMED PEARS.

BURLINGTON, IOWA.

J. JAY SMITH, ESQ.—DEAR SIR: I send you, by mail, a specimen of a nodule or transformed pear, which grew in a garden in this place. Have you ever seen anything like it?

Truly yours,

J. F. TALLANT, M. D.

Not exactly; but the tree has sometimes curious sports like others. Occasionally, the centre of a flower lengthens, and bears its parts upon its sides, both in the pear and apple, whose fruit is often found in the state of a short branch. Still more

rarely, a flower lengthens, and produces, from the axils of its parts, other flowers, arranged over its sides, as in the double pineapple.

The following cuts, which we take from a foreign publication, represent three pears, produced in different places and in different conditions. To use a gardener's phrase, there was, at first, no difference between the blossom-bud and the fruit-bud, but, after a time, the parts which were identical, begin to be organized differently; in the blossom-bud, they gradually change into sepals, petals, stamens, and carpels; in the wood-bud, they become young leaves. But, if anything occurs to disturb the development of the blossom-bud as a blossom, then it becomes a wood-bud, or approaches that state more or less, according to the period at which the disturbing force began to act. It thus appears, Dr. Lindley thinks, that whether a bud becomes a flower or a branch, depends entirely upon some unknown force, which acts at a particular moment upon parts originally of identical nature and quality, and capable of becoming leaves; if this action is complete, a flower is the result; if altogether withheld, then the rudimentary parts, not having their nature changed, proceed to acquire the condition of leaves. Hence it is, that when, from some accident, such as unusual heat and wet at a critical moment, exuberance caused by the excessive application of rank (azotized) manure, or any circumstances of a similar nature, the usual order of development is disturbed, flowers are not formed, or we have them converted into tufts and leaves, or even branches, perhaps into the pyriform nodule sent us. The following examples are conclusive evidence as to the truth of this theory:—

Fig. 1 represents a pear, in which the calyx and its fine sepals are not much disturbed, but in which the petals and part of the stamens, developed in the form

Fig. 1.



Fig. 2.



of leafy scales, adhere around the centre of the flower, which has lengthened somewhat like a branch, while the remainder of the stamens and the carpels are concealed within the summit, in the form of withered rudiments. The constitutional tendency to fleshiness, which is the characteristic of the pear, is not lost in this or either of the two other cases, but is preserved throughout, only diminishing towards the eye.

In Fig. 2, the phenomena takes a somewhat different direction, the leafy tendency being greater in some of the sepals, but the tendency to acquire succulence

Fig. 3.



having been preserved in a far greater degree; as if the disturbing cause, whatever it may have been, which originally prevented the young parts from becoming petals, &c., and which forced the centre to lengthen like a branch, was effectually withdrawn and overcome by the tendency to become succulent, which the parts had already acquired when the disturbing cause began to act.

In Fig. 3, the change advances further, and in another direction. That dislocation of the rings of parts belonging to the flower, which was so visible in the two last cases, is here carried still further; and, in addition, two of the young parts near the middle of the whole structure, have each formed in their axil one bud, which has become a deformed flower, and produced a deformed

pear. No organ of the plant, except leaves and their modifications, has the power of producing a flower from its axil.

IS THE KALMIA LATIFOLIA POISONOUS?

BY T. M.



SOME years ago, travellers gave us startling accounts of a tree, the very odor of which was death to animated creatures. Nothing would grow beneath its immediate shade, and all in its vicinity was seared and blighted. Well, when subsequently Richardson wrote of it, that he had often sat amongst its branches and smoked his cigar, we seemed to be acting very leniently in giving him and his story over to Munchausen or Gulliver; and it was not until the writer himself had the opportunity of, in some respects, imitating Richardson, that he became convinced that the celebrated Upas-tree of Java had been most scandalously libelled.

Has not our own most beautiful *Kalmia latifolia* been similarly injured? Thus I inquired, on reading the following note in *Darby's Botany of the Southern States*: "The leaves of the Kalmias are all poisonous; nevertheless, some animals, it is said, eat them with impunity, and that, too, to such an extent as to make their flesh poisonous to man, it becoming so impregnated with the poison of the leaves." Now, there seems to me something wonderful in this. My farm hand, one day, accounted to me for the death of one of his hogs, that he was sure it *must* have eaten a rat that *must* have tasted some phosphorescent poison I had set for it one day before; but, I am sure, his untutored brain would never have supposed that the poison had been in the flesh of the rat, instead of his stomach, and perhaps weeks or months before. This is the nearest case to that mentioned by Darby that I ever knew of, and yet, how far off?

But Darby only gives it as "it is said," and I am inclined to believe that all any of us know about its poisonous property is on the *ipse dixit* of some one else—as far back, perhaps, as some original Indian, hundreds of years ago. As far back as I can recollect, I was cautioned not to go near or smell the flowers, and told that the honey the bees extracted from them was poisonous. Had those who so taught me, lived in this region, handled the magnificent bouquets, or, as our children do, worn the rural wreaths they fantastically make of them, their fears would undoubtedly be very alarming. To this day, the English, with all their fondness for it, admit it only in guarded places, not exposed to the incursions of children, and where, like a caged lion, its grandeur may be seen, but its power not be felt. As we know this to be all "nonsense," why may not all the rest be that is said derogatory to it?

As to its being poisonous to cattle, I may mention that, in one of my botanical excursions last year, I came on a wood, in Delaware State, in which were some score of cows. Poor beasts!—there was little in that wood to satisfy the demands of a hungry appetite, but the wood abounded with *laurel*, as Pennsylvanians call it, and not a leaf was to be seen on the plants; they had eaten every vestige of

green about them, even to the young shoots. If I recollect rightly, this was on Ridley Creek, and, I presume, the butter, if not the milk itself, finds its way from that region to the Philadelphia market, and, if the statement, as "it is said," by Darby, be correct, with what a serious result to our citizens! for, assuredly, if the flesh can be impregnated so easily, how much more so butter and milk!

But I again repeat, I do not believe it to be poisonous. I have given it a chance on my own life, which it declined to accept, and as I do not lay claim to the constitution of Mithridates, I conclude it deemed itself unequal to the task.

I should be glad to learn that the experience of others differs from my own; for, although I dislike to see a flower I so thoroughly admire connected with such unpleasant associations, I shall be better satisfied if I feel assured that it deserves it.

[It was the opinion of Nuttall, and many others, that the popular notion on this subject was decidedly erroneous, and that the "leathery" leaves, being indigestible, was the cause of the injury, and even, occasionally, of the death of animals that had partaken of the laurel. A popular error of this kind, if it be one, should be investigated and exterminated as soon as possible.—Ed.]

EFFECTS OF COLD WEATHER.

BY BENJAMIN HODGE, BUFFALO, NEW YORK.

It is an old maxim, and a true one, too, that "we are never too old to learn." This remark is, perhaps, quite as applicable to the horticulturist and pomologist as that of any other class of men. The severity of the winter of 1854-5, in the State of New York, and more particularly in the western part of the State, was a general theme of remark; and, in the opinion of many, has hardly been equalled during the past quarter of a century. On the morning of the 6th or 7th of February, 1855, the thermometer sank to 20° and 22° below zero. It was soon ascertained that the fruit-buds of the peach were all destroyed; and, soon after, the discovery was also made, that the trees, too, were all killed. On cutting off the branches of the trees, it was found that the wood was discolored, and quite black; and that all above the snow line, to all human appearance, was quite dead. Although the bark seemed to be alive, yet it was supposed that, on the first opening of spring, or soon after, the trees must wither and die.

Peach growing was now at a discount; and many, without further delay, cut down their trees, and cleared the ground of the rubbish. One gentleman, as I am very credibly informed, cut down his whole orchard of some two thousand trees, which, the autumn previous, had produced a bountiful crop. A neighbor of the writer cut down many beautiful trees which were then just in their prime. But everybody was disappointed. The spring and early summer opened most propitiously, with genial showers, and fine growing weather. The trees soon put on their summer dress, just as fresh and as fine as ever. New, healthy leaves and bark very soon completely covered up and encased the dead wood. The trees made a fine growth, and set full of fruit-buds; and, to a casual observer, appeared

as healthy and as vigorous as ever. And yet, the old wood is literally dead, surrounded by a ring of new, healthy wood. Whether the trees will remain healthy, is a problem yet to be solved.

The writer, having a large fruit farm at Peach Haven, near Niagara Falls, naturally feels much solicitude in regard to the culture of the peach; and has been a close observer in regard to the best treatment of the trees. The centre branches of the trees are very liable to perish at an early day; and, after a few years, the trees present the unsightly appearance of all being dead, except the ends of the limbs. Very close pruning has been found a partial remedy for this evil; and it has been a question, whether it would answer to cut off the whole top of the tree at once? Would the tree be able to withstand this shock, and send out fresh shoots and form a new head? But this is no longer an experiment.

Last spring, Mr. Burdett, who has a fine peach orchard in our vicinity, supposing his trees were all dead and worthless, with axe in hand cut away all the tops of many of his trees, leaving only an unsightly trunk, with perhaps a few rough prongs of a few inches in length. As the season advanced, and the trees seemed to put out fresh shoots, he concluded to wait a little before clearing the ground. The result is, that all of these trees have put out numerous, vigorous, healthy branches, and formed complete, dense tops; in most cases, far superior to the old ones. I am so well satisfied with this, that, should the severity of the winter or spring destroy the prospect of the peach crop for next season, I should, on the opening of spring, cut off the tops of some 2,000 peach-trees, now five or six years old. By the way, I am anxious to learn whether any of our New Jersey, or other peach growers, have ever tried this method.

The pear-tree is so tenacious of life, that you may cut it back with impunity. A tree twenty feet high, may be cut down to within six feet of the ground, and in two or three years it will again form a handsome head. The only remedy that I have ever found for that mysterious disease, *fire-blight* (and which, in my judgment, is a sort of *pear cholera*), is to cut off all the diseased branches at least one foot below all marks of discoloration of the bark. We had no fire-blight here until about five or six years ago; and then it came in true cholera desperation. In a single month, hundreds of trees in this neighborhood were completely destroyed, and hundreds of others very badly injured.

Towards autumn, I directed my gardener to go through my grounds, and to cut off every diseased branch or tree at least one foot below the appearance of blight. He obeyed my orders to the very letter; and I was not a little surprised the next day, in going over my grounds, to find that he had cut down even with the ground several valuable trees, of some eight or ten inches in diameter, and which, I supposed, were not very seriously affected. But, on examination, they were found badly affected in the trunks of the tree as well as in the branches. Others were left merely unsightly stumps, all, or nearly all, the tops being completely cut away. I was quite heartsick, and almost inclined to cut down to the ground these mere wrecks of my once beautiful trees. However, two or three

years have wrought a wonderful change, and the most of those so closely pruned are now among my handsomest and most valuable trees. For the past two or three years, we have had but little fire-blight; perhaps not over three or four cases in a thousand trees.

Extensive orchards of the pear have been planted out during the past four years; and, in many cases, I fear, without much discrimination. The pear seems to be more capricious than any other kind of fruit; and it is a wonder to many, how so many miserably poor varieties ever came to be cultivated. Of the four or five hundred sorts in cultivation, I very much question whether there is one in ten of them equal in value to the old "Orange Bergamot," which my friend Allen and myself had some sparring over in the *Horticulturist*, some three or four years since; and which, in my opinion, is no better than it should be. But it has some redeeming qualities which many others do not possess, viz: It is productive; does not rot at the core; and it will sell. Now this may be deemed faint praise. It is so. But, is there one instance of the pears now grown among us, that possess even these good qualities?

But the world, of late, has been running mad after new varieties; and many of us, in the purchase of these, have caught a Tartar. I will relate a case in point. Three years ago, at the Massachusetts Horticultural Exhibition, the *Bonne des Zees*, a fine-looking pear, was passed around and tasted by some twenty or thirty of our most celebrated pomologists then assembled in the large tent; and it was pronounced "very good;" and even the distinguished gentleman that now occupies the White House at Washington, expressed his admiration of the pear. Soon after returning home, the writer went to the nursery, and engaged all the good trees of this variety. A good friend and neighbor, who was also at the Boston show, soon after made application for some of the trees, and was not a little disappointed to find all engaged. But mark the sequel. The standard of this variety has fruited each year since; and, although it is uncommonly productive, and fine in appearance, yet it has ever proved a mere juicy, wish-a-washy, insipid, quite tasteless, and inferior thing; every specimen so far falling short of "good." In appearance, it very much resembles the Bartlett.

In orchard culture, for market purposes, it has been found much more profitable to plant out but few varieties, and those of well-tried sorts. In an orchard of some 3,000 peach-trees, the writer has confined himself to four or five sorts; of 1,000 apple-trees, mostly to four varieties; and, of 1,000 or more pears, to some ten or twelve sorts, of which the Bartlett, Seckel, White Doyenné, and Stevens' Genesee, are the most prominent. By the way, I notice that the American Pomological Society class the Stevens' Genesee Pear among those that "promise well." Well, this is truly encouraging for a pear that has been so well known in Western New York for twenty or thirty years. We have some "promising" boys here, of some forty or fifty years of age, who came to the same conclusion a quarter of a century ago.

The next meeting of the American Pomological Society will be held at Roches-

ter next autumn, at which time we anticipate a very large gathering of our pomological friends from all parts of the Union, and also from the Canadas. Genesee has been called the garden of the world. Everything now indicates a fruitful season. We must trust that the exhibition of fruits from Western New York will be worth seeing. And not only this, but the most rare specimens of fruits from the east, the west, the north, and the south, will here meet. A rare chance to compare fruits from all parts of our wide and extended country.

CRITIQUE ON THE FEBRUARY HORTICULTURIST.

BY JEFFREYS, NEW YORK.

Want of Progress in Rural Taste.—There is great difference in the constitution of the intellect, in matters of taste of any kind. Occasionally, one has a nice appreciation of rural objects from early childhood; another has a strong indication of native taste in art; another in mechanics; another in philosophy; another in science; and so on, through the whole catalogue of Divine creations and human inventions. These are God's own endowments, and those thus favored become the schoolmasters to others in whom original tastes of like kind are absent, yet possessing the faculty of cultivating them by the instruction of others. In the creative faculties of original minds, on all these different subjects, "there is a divinity that stirs" within them. The chronicles of all time which lie before us, give striking examples. Abraham and Lot were distinguished farmers, grandly possessed of fine taste in what was both beautiful and useful in rural life. Jacob was a physiologist, circumventing the dishonesty of his wily old father-in-law, Laban. Who had so grand an appreciation of the magnificence of creative power as David, as witnessed in his sacred psalms? While Tubal Cain, descendant of the first murderer, long before either of the others, was as cunning an artificer in brass and iron. Solomon, great in architecture, also displayed matchless taste in the rural adornments of his pleasure-grounds. Several of the prophets show that they had exquisite perceptions of the grand and beautiful in nature; while Christ himself, greater, diviner than all, drew most of his parables from those delightful rural objects strewed along the paths of his own brief wanderings. Virgil possessed not only a natural, but a highly cultivated taste in rural affairs, as shown in his Georgics. Cicero was refinedly ornate in the rural embellishments of his own celebrated villa. In later time, Michael Angelo, with an opulence of original genius and cultivated taste, was a wonder in architecture, painting, and statuary. Lord Bacon, not only in philosophy and letters, but in planting and gardening, was a deep and profound teacher. In later time, Sir Walter Scott and Professor Wilson charmed the world with their appreciations of refined taste in landscape and natural scenery; and our American Downing, had he lived to mature age, would, perhaps, have been equal to any of them in the delightful aptitude of his teachings. So much for minds in which an *original taste* for their chosen pursuits, or recreations, was planted.

In America, grappling with a stern necessity, even down to a recent day, we have, comparatively, few striking examples of refined rural taste in the labors of those who have passed before us. Yet, there are some grand old places in the Revolutionary States, indicating the presence of both a strong original taste, and well cultivated art, in selecting, laying out, planting, and preserving them, well showing that their founders were no *pretenders* in what they did. Within the last thirty years, a better opportunity has been afforded us. With considerable original taste, increasing wealth, and leisure, to pursue the proper study of rural embellishment, many new and beautiful places have arisen from the wild wastes around them; and, although many bald and bastard examples, where a large expenditure of labor and material have been thrown away, exist among them, we have many spots which, when time enough has elapsed to give growth to their plantations, and antiquity to their erections, will present choice specimens of a discriminating taste, and a serene beauty. Yet, *in the mass*, man is woefully uneducated. We saunter along, heedless of the native beauty which surrounds us, and which we might appropriate to ourselves almost for the asking. We do want schools of taste, and of art, in rural embellishment. But who are to be the teachers? A few only of the English books and authors, from which we draw our ideas, are possessed of either correct taste or competent instruction. Of *native* authors we have any quantity; and how few of them are of any lasting account? The number indeed is small. What we, in America, need is, the understanding of *first principles*. Scarcely any two places are alike in natural position, capabilities, and soils. They require different treatment, and that treatment varied and diversified by the delicate, discriminating exercise of taste, founded in well-established principles, and appreciation of the art to be exercised. We have no such schools; and if we had, where are our schoolmasters? There is scarcely a rural paper in the country but has advertisements of such, and we see some of their labors in the paltry checker-work of door-yards, lawns, and, now and then, a so-called park, stuck full of inappropriate things of no meaning! But we must live in hope, and, meanwhile, strive to do the best we can till a better day shall dawn upon us, or the rising spirit of a few master minds shall teach us with an unction both impressive and lasting.

The Seed Business of the West.—Illustrative, quite, of the very progress of which I have just spoken. Out of their rapid distribution of seeds and tools, we shall, in time, see many good things.

Cultivation of the Pear-Tree.—I hope Doctor Ward is going to do something clever; and more, that he means to let the world know it through the *Horticulturist*, as he progresses. It is now more than a dozen years since pear culture on the quince has been vigorously started in our country. Many a nurseryman has got rich out of them; and, by calling conventions and forming societies, they intend not to keep their lights under a bushel. Now, out of the millions of dwarf pears the nurserymen have sold, I would like to hear of the *very first* dwarf pear orchard that has paid expenses. Many tell of pears selling for sixpence, a

shilling, even two shillings a piece, in the fruit-shops, and of a certain tree, or trees, in such a one's garden, which annually yield their owners scores of dollars in their fruits. All this may be so. But, about the *orchards* of *such* trees! where are they? The pear has a thousand, or less, enemies. The blight runs with a zigzag, forked, and sinuous course, through the orchard one year. The slug, and the curled and spotted leaf, like the leprosy, hit them in another. The pestilent field mouse girdles them at the roots in the third; and calamity, *in general*, is after them in the fourth. I have had a little experience in this line myself, and the upshot of success in *extended* pear culture, either dwarf or standard, I receive with great allowance. I hope Doctor Ward will be successful, for, if any man knows how to do the thing, *he* does. It is well that he is so close to Professor Mapes' superphosphates, and the poudrette factories; and if he gives his trees the very best of *garden* culture, manuring them like cabbages, trimming and cutting back to order, thinning out his fruits with scissors, and all that sort of thing, and don't lose them by disease or casualty, and then can get ten dollars a barrel for his pears, or sixpence a piece for them in market, he'll do. His article is interesting, and I hope he will continue the subject.

Garden Wheelbarrow.—This is *one* of the tools. But, when you get it, be careful that it is not a gimcrack affair, to be made over again by your own village blacksmith the first time you use it. One-half of these garden tools, well enough in the invention, are not worth taking home, from the flimsy, dishonest way in which they are put together. Too much like Pindar's razors!

Golden Hamburg Grape.—If this grape is as good as its mother, the Black Hamburg, it is an acquisition to the graperly—for its *color* is a high attainment in *such* a grape. If I were to stock a vinery with a dozen grapes, ten of them should be Black Hamburg, and the other two Golden Chasselas. These two varieties are easily grown, sure bearers, and possess the aggregated virtues of all the others. Only prove the *Golden Hamburg* what it is described, and I will add it to the others, making *three reliable* grapes.

Residence of John Bartram.—I don't think much of his old home, but I do think very much of the good old Quaker who lived in it; and Col. Eastwick deserves credit for the pious veneration with which he preserves it. I must go and take a look at the old place, when I get time.

Moonlight on Vegetation.—Who doubts its effects? The garden women say they pick double the cucumbers during moon-shiny nights than in dark ones; and they ought to know.

Experiment with the Osage Orange.—I should like to see the Western men, who grow Orange hedges *by the mile*, "pinching" their shoots by way of trimming! No, no, Mr. Alexander, that won't do. A *successful* hedge plant in this country, has got to bear cutting down, or cutting off with a bill-hook, scythe, or shears, as may be, or it's of no use in *farm* hedging. I've seen a couple of models of machines for clipping hedges, to work by horse-power, which, if they work at all, will trim miles a day. We'll know more about these hedges five years hence.

Domestic Notices.

NEW YORK, Feb. 18, 1856.

DEAR SIR: Cannot you say a word in favor of the "*Agrostis Stolonifera* for Lawns?" From its extreme dwarf habits (rendering frequent mowing unnecessary), combined with its resisting intense sunheat, and for retaining its rich green lines through the summer, it is preferable to red-top, greensward, or any other of the grasses. It is used for the purposes of lawns in the South of Europe, to the exclusion of all others.

Yours truly, J. M. THORBURN & Co.

BURR CREEK, MICHIGAN.

The private correspondence of Downing is good. We never tire of hearing about him.

CHARLES BETHE.

GREEN CASTLE, IND., February 12, 1856.

DEAR SIR: I wish you to send me the *Horticulturist*, and for one year. I am glad to inform you that we have been making up our premium list of 1856, of Putnam County, and made quite a number of your most excellent journal. I think we have, in our list of premiums, some twenty-three volumes of the *Horticulturist*—quite a number with colored plates. We are the banner county in the West, I think, in advertising the *Horticulturist*. I am anxious to have it circulated among our people; I shall do all I can to this end.

Yours respectfully, JOHN S. JENNINGS.

ORANGE WATERMELON SEED.—MR. EDITOR: I see inquiries made as to where the above-named seed can be had. If you will do your subscribers the favor to mention this, I have some seed to spare, and will send, to any person who will remit a postage stamp to prepay the postage on the seed, a pack of one dozen seeds of the above, of my own growing.

I consider it a valuable melon, and easily raised, and one which ought to be disseminated, and not held by a few, some of them charging fifty cents for half a dozen seeds (which was the price of those I first got).

Yours, SAMUEL MILLER, *Calmdale, Lebanon Co., Pa.*

EDITOR OF THE HORTICULTURIST: I am highly pleased with the wonderful discoveries of your "West Town" correspondent (page 94, in your February number). The only drawback is, that he keeps them secret, and has applied for a patent. I hope he may sell the patent-right cheap, for we *Western chaps* would like to know how to keep bugs off vines, especially as he says it is a *sure cure*, and to know how to raise 580 bushels potatoes to the acre, without any manure except plaster and ashes.

For our Western corn crops, the crow and cutworm patent will not be so valuable. In planting corn, we go by the old rhyme, when dropping the grains—

"One for the blackbird, one for the crow,
Two for the cutworm, and three left to grow,"

and we generally make out to have good crops. I rather think we can beat "West Town" in corn, and give it the benefit of the patent to boot. Amongst my books on Agriculture, is one published by David Seaman, in 1853, entitled "*The Fruit Raisers' and Farmers' Guide and Receipt Book, and how to Protect against Disease by Working with the Course of Nature.*" In that valuable work I find the following useful recipe, which I give to your West Town correspondent gratis, the author having never taken out a patent for it. (Page 51.)

"To prevent bleeding at the lungs: Take a hoptoad, and lay it on a hot shovel, and while it is broiling, hold your face over the steam, so as to get the smell and the scent *good*, and the blood will soon stop, &c. &c."

Should any of your West Town correspondents try this experiment, I should like to know the result, for I have not tried it myself.

Respectfully, JOHN QUILL.

Cincinnati, Feb. 15, 1856.

HUNT BOTANICAL GARDEN.—MR. EDITOR: In the December number of the *Horticulturist*, I find an article on the Hunt Botanical Garden, and am desirous of making a few remarks in reply.

Although there is now no prospect of success, yet I feel as one personally called upon to give an opinion on the subject in reply to the before-mentioned article.

Far from being agitated by contentious feelings, I could not overlook the words, "the plans are both pretty pictures, well executed on *paper*, but each wanting in generalities."

Certainly, such matters ought to be closely looked into, and guided by the opinions of men who have had actual experience in, and possess a thorough knowledge of, the subject to be investigated, and all sensible men would be pleased as well as profited by a well-founded, well-directed criticism; but, it requires more self-conceit than I would like to be possessed with, to assume such unquestionable authority as is expressed in that article.

I must confess that I am ignorant of what is meant by "wanting in generalities," or where, and to what extent, "misapplied utility" has made itself apparent; as others, who are well informed respecting it, have not discovered any serious misapplication, and I entertain considerable doubt as to my friend being more successful, were he to undertake an examination with more leisure. A picture may be judged at a glance—this claims no merit as such—but a plan of so different a nature and purpose, that it oftentimes requires a competent person a day or more to give a correct opinion of it, and calls for mental acquirements different from those available to the author of that article, although his knowledge and qualifications may be, and are, very valuable in their proper place.

Although it is not an easy task to delineate with sharp lines what a botanical garden should be, to answer the wishes of so many, and the purposes indicated by its name, it is more than likely that, with a love for the profession, fifteen years' uninterrupted practice, and facilities to see, compare, and examine, on the continent of Europe, one should know something of what a botanical garden should embrace, and what experience I have had here is sufficient to inform me what the Hunt Botanical Garden should have been, had not an ill-tempered wind swept it from the map of Long Island.

I perfectly agree with your correspondent, that it should be adapted to the wants of this great nation, notwithstanding that, with a fair recollection of what has transpired in the cause of horticulture within the last ten years, and a moderate estimate of what will yet follow, I believe I have been little or nothing out of the way.

It would require too much space in your valuable journal, neither would it be interesting to your readers to enter into details, describing the various departments as laid down on that *picture*, but my friend may rest assured, that, considering its location, formation, and area (11½ acres), the plan comprises all that is desirable to have.

"Nooks" are very pleasant and attractive acquisitions in all sorts of pleasure-grounds, if properly situated and sheltered, but I should have little hope of complete success were I to denote their exact position on a plan where the ground has but few or no trees left under which to seek shelter. I prefer rather to form, first, the principal features of the ground, and after having completed the grading, planting, &c., the most appropriate spots for nooks, &c. &c., will suggest themselves, and in each case with certainty of success.

I cannot close this article without remarking, that while I take exceptions to the criticisms of my friend, I must say that much credit is due to him for his exertions and success in grape culture, etc., in acknowledgment of which, I shall lose no opportunity of strengthening our friendly relations.

If the spirited officers of the late Hunt Botanical Garden Association should succeed in calling a similar enterprise into life (which I sincerely hope, and have no doubt they will), I shall not omit to contribute what I may deem due to so praiseworthy an object, and shall be pleased to find others doing the same.

Respectfully yours,

AUGUSTUS HEPP, 880 Broadway, N. Y.

"MORE GOSSIP FROM THE NORTHWEST." By GEORGE S. TAYLOR, Chicago, Illinois.—DEAR SIR: The pleasant chatty letter from friend *Tallant*, in the January number, will recall to many of your readers the delightful reunion at Burlington last September; and few who were there will fail to fancy, as they read, the kind, genial smile of the *doctor* welcoming them once more to the "beautiful land" of fruits and flowers. No wonder that he is strongly attached to his adopted State, and especially to the lovely, busy, rapidly-prospering and growing city where he dwells. Until we hear further, Burlington can challenge the world for pears, either in beauty, quality, or size; for, although it might have been supposed, and with reason, that such mammoth specimens would deteriorate in flavor, I do not consider, nor have I even heard it hinted, that such was the case. I think, too, that the doctor's "gourmandize," for such the wonderful shoot must of course have been, would be "hard to beat."

What are the peculiar merits of *siler* in the soil, in respect to fruit trees, I am unable to state; no doubt, when finely pulverized, it is a powerful manure, as are, also, all the primitive rocks; witness the benefits accruing to old, worn-out soils from the application of the mud from macadamized roads, especially such as have been formed of broken granite in which quartz so strongly predominates. But the soil on which a great portion of Burlington stands, *per se*, is a red, argillaceous clay, very similar to much of the orchard land of Herefordshire and Devonshire in England, and portions of Normandy and Brittany (take the modern departments of La Manche and Loire Inférieure, for example) in France; and all of these are famous for their apples and pears. Gypsum, marl, all mineral manures, even clay properly applied where it is not originally too abundant in the soil, will be found preferable for orchards, to more powerfully and acutely exciting animal manures.

Another great secret of the eligibility of Burlington as a fruit-growing country, lies (not at the bottom, but) in the Mississippi. The water attracts the late frosts to its surface. This is an operation of nature which has been noticed in other similar localities, but only acts in this manner when the land is, as at Burlington, sufficiently elevated above the water. I opine that, on low lying lands, the vicinity of running water would be objectionable as attracting the frost to its level.

And now, I want the doctor to amend his declaration in regard to "those strawberries," or I shall certainly demur, both generally and specially. I admit, unreservedly, his averment that, at Burlington, the strawberry is "in its prime at the end of May," but the doctor must have been sadly informed as to the time of its ripening "around Chicago." In 1854, I gathered ripe, early, scarlet strawberries from plants, only set out in April of that year, on the 15th of June, and last year, from the same plants, on the 10th; and the early scarlets were ripe, in quantities, on the 17th of June. My Hudson strawberries have ripened for the last three years, not later than the first of July, and we have always plenty for the Fourth. My garden is made on about the worst description of land in Cook County, but I have always good crops, and Dr. Egan, Hon. M. L. Dunlap, and others, have abundantly proved that as fine strawberries, if not quite as early, can be raised "around Chicago" as anywhere

on this continent. The fact of the matter is, our climate is from ten days to two weeks later than that at Burlington; but six weeks' difference in two hundred miles, even if we were due north, is rather too much. The good doctor must have been thinking about Pembina.

G. S. T.

GARDENERS. By ROBERT MESTON, gr. to Col. A. J. Polk, Ashwood, Tennessee.—In the January number of the *Horticulturist*, you give your readers a chapter on gardeners and experimental gardens. Much as has been said upon this subject by editors, amateurs, as well as the profession, the first thing to be considered is this: Who are foreign gardeners? The answer is, they are men of foreign birth, educated to the profession before they emigrate to this country. These are truly foreign gardeners. Then the question arises, have all the men in this country calling themselves gardeners, been educated as such abroad? No; not one-half of them. I must therefore assert, that they are not foreign, but American gardeners; this is my argument. Your readers may judge whether I am correct or not. Suppose a young man emigrate to this country, bringing no trade or profession with him, and, after some time, he become a landscape or portrait painter, or excels in any of the fine arts, do we acknowledge him as a foreign artist? The American press will speak of him in terms of praise as an American artist, and justly so, I think. A foreign land gave him birth, and America gave him a profession; therefore, he is an American artist. Now, if this is just and true with the artist, it must be just and true with the gardener; and, I must say, I think the great majority of gardeners in this country are of American growth. Every good gardener in this country, I am sure, would do all in his power to bring about a better state of things, and would hail with delight horticultural colleges, or experimental gardens, and give his mite for the support of them. Now, as it respects native American gardeners, educated at an Horticultural College or Experimental Garden, which amounts to the same thing, I much question whether one-half of the boys brought up to the profession would stick to it in after life. The complaint has been, in this country, that the foreign gardener has not been educated to suit the times; therefore, there would be produced a better class of educated men than the present state of horticulture can boast of. Now, we will suppose a boy, of fourteen years of age, enters one of the above institutions, and remains a student until he has passed his minority; what is the course of his studies during the seven years (we will suppose the place thoroughly established, where every branch of the profession can be taught), bearing in mind that this boy has a moderate English education before he enters the establishment? The first thing taught him in the establishment is manual labor; his hours of vacation from labor would be something like the following:—

The first problems of geometry and land surveying, agricultural chemistry, botany, vegetable physiology, mineralogy, rural architecture, and landscape gardening; at least a slight knowledge of the Latin and Greek languages, that is, if he wished to become a good botanist. These are a few items that are to be stowed away in the memory of a good, practical gardener. Without going into further details on this subject, we will suppose a young man, at the age of twenty-one, with a knowledge of all these things, we should call him a tolerably well-informed young man; the next thing is, he offers himself to a nurseryman to work for a dollar per day, or he goes as head gardener to a gentleman; what are his wages? From 25 to 35 dollars per month. Who are his associates in said family? Ostlers, cow-boys, and the servant-girls of the house; he is, in fact, a serving gardener, and is looked upon as one of the servants of the establishment, and this is what he gets after seven years of hard labor, and harder study. Will a young and enterprising native American stand it? I think not.

Now, take this same young man, and give him the same amount of education, the same time to study in any of the higher professions, which will take no longer, and, in fact, no

better education. As soon as his minority is passed, he comes out an acknowledged gentleman, most probably gets into the best society, and associates with educated men. Mark the difference. Some time since, a writer in some horticultural paper, stated that he never knew a foreign gardener to bring up his sons to the business. I think I have stated the reason he does not: too many years of labor and study for too little pay.

Some of your readers may say, if this is so, how is it that Great Britain has such good gardeners? The answer is nearly this: all the gardeners in that country are self-educated men; they commenced the profession with little or no learning; when they were cast upon the world (as Sam Weller says), to play at leap-frog with its troubles, they jumped the first back that presented itself. Gardening in England offers employment to tens of thousands of men; there you may find every kind of gardeners, from Sir Joseph Paxton to the gentleman that has no objection to milk the cows, and tend the garden. Philip Miller, the first great gardener we have any account of, was born in obscurity. Loudon says he raised himself to a degree of eminence never before equalled in the character of a gardener. He was born in 1692; he maintained a correspondence with the most eminent botanists of the continent of Europe. Amongst his correspondents was Linnæus, who said of his Dictionary: *Non erat Lexicon Hortulanorum sed Botanicorum*; and by other foreigners he was emphatically styled, *Hortulanorum Princeps*. So it is, at the present time, with the great majority of British gardeners; they are self-educated and self-made. In Great Britain, every avenue of labor is closely filled with manual as well as mental labor, and, therefore, every employer in any branch of business, has a great variety to choose from; hence it is they have good gardeners. Now, what has been the case in the States? The reverse of all this. Our avenues of labor are not filled up to the same extent they are there; the consequence is, the garden has gone in search of a gardener, instead of the gardener going in search of the garden, and when this is the case, the majority of the gardens will be decidedly bad. I know that, for the last twenty years, the supply has not equalled the demand, and that has brought into existence a lot of self-styled, but not self-made gardeners.

My object in writing this letter is, first, to vindicate the true foreign gardener, and to prune out the quacks, and the following is a plan, I think, might be adopted. As we have in this country a great number of good horticultural societies, I propose to use them to advantage to the employer and the employed, to wit:—

That every horticultural society shall appoint a committee of four or six of the best practical gardeners belonging thereto; the duty of said committee shall be, to examine any applicant calling himself a practical gardener, wishing to fill a situation as such; and, if said applicant be found competent by the committee, he shall be entitled to a printed certificate, to be filled up by said committee, and signed by them, and the President of the Society. Now, supposing some such thing as this was in operation in this country, every competent gardener would soon become aware of it, and submit to it with pleasure. If such a plan was adopted, and every employer requiring a gardener, if the latter is a stranger, he should exhibit a certificate from the nearest horticultural society. The gardener, on receipt of his certificate, shall pay said society any fee the society may think reasonable. If something like this could be done, the complaints would soon be stopped; if the demand is greater than the supply, don't employ the trash; you can import good, responsible men.

[Mr. Weston has stated the case in an intelligent manner. The real difficulty to be encountered in America, is the supposed fact that other employments afford an apparently higher field of social and pecuniary compensation; but this is only on the surface. In the first place, in an intellectual point of view, how much higher are the enjoyments of a scientific gardener than those of most mechanical businesses? If a youth fails to profit by such opportunities as our correspondent proposes, he must be, and deserves to be, only a manual laborer; but a really good gardener can always get, after a few years of experience, a nursery

of his own. Generally speaking, he succeeds, and becomes an independent, happy member of society, with a far better position than one-half of the doctors and lawyers who have chosen those professions because of their seeming facility to wealth or social circumstances. The members of our Horticultural and Fruit Growing Societies are as good men, as well informed, and as free to come and go as they list, as the mass of physicians. They are quite as good companions, at least, as the fashionable dandy, and, in our opinion, much better; they are conscious of being instrumental in forwarding the world's progress; their minds are full of intelligence; their business is a source of perpetual delight; they never lack subjects of thought and contemplation; and they should be the most devout adorers of a supreme first cause, because the evidences of *design* are always springing up before them. They are, too, obtaining, by their intelligence and probity, an enviable social position, which improves precisely in the proportion that they deserve it. Bartram was a gardener; Dr. Lindley is the son of a broken down gardener; Sir Joseph Paxton was employed all his life in the same capacity, and our correspondent quotes himself, Philip Miller as born in obscurity. Talent and industry, with education such as a smart youth can get in this country, if he chooses to apply himself, are sure of reward.—Ed.]

HOW TO MAKE VINEGAR.—In the *Horticulturist* for December and February, there are notices of the Vinegar plant, there described as “a minute fungus, allied to the mucor or mould,” “*Penicillium glaucum*, of which the mycelium or spawn forms a tough,” “leathery web.” This description of the spawn would answer for the substance usually called “mother,” always accompanying good cider-vinegar when left a month undisturbed, whether producing the vinegar, or being generated by it, and leads to the suspicion that the “mother,” if not the spawn of the vinegar plant, stands in the same relation to one of the same class, and of nearly the same properties; as it is frequently used here for the purpose of hastening the formation of vinegar from cider, and it is generally believed to be useful for that purpose.

Leaving the vinegar plant till more is known of it and its properties, I propose to describe the method I have used for making vinegar from cider, and which, when adhered to, I have not known to fail. The cider used for making vinegar, is generally made in the early part of the season, before the weather becomes cold. The process is as follows: Grind the apples; put the pomace in open vessels a day or two, then press out the cider, put it in open tubs or casks, cover the cider one inch thick with pomace; let it remain fermenting till the pomace shows signs of separating into parts; then skim off the pomace, put the clean cider into casks, rejecting the sediment at the bottom; place the casks of cider under cover, and protect it from freezing in the winter; place a brick or board over the bung-hole, and, for a month, keep the vessels full; it is important that the casks be well cleaned from mould and mustiness; where either is suspected, it is proper to burn sulphur within them, and, afterward, rinse carefully. At any time after the cider has been drawn from the open tubs, procure good cider vinegar, known to be such, and not that manufactured in part from tartaric or sulphuric acid; let it be in such quantity as you suppose necessary to begin with—suppose one barrel, draw off one-half, and put it in another cask; then, once in a week, add to each a gallon of cider (or, if you choose, two gallons); continue to do so till the barrels are full; afterwards, draw from each, weekly, two gallons, putting it into other casks, and fill the same quantity of cider into each that you have drawn from; in this way, vinegar can be made, with certainty, to any extent. It is better not to sell till the succeeding season of cider making; first, because, although the vinegar may be merchantable, yet it may be wanted to increase the stock, and, if not, it will improve at least till the end of a year, and perhaps longer; and secondly, the casks (which, to the farmer, causes the principal outlay in making vinegar) will last longer if kept full, or part full, than if empty.

I believe this method is the same in principle as that of making vinegar by using the

vinegar plant; in each case, a liquid substance, capable of, and disposed to, the acetous fermentation, is brought into contact with substances that have, in part, undergone that fermentation, and not passed beyond it. The result of the contact is, that the action, originally confined to the one part, is continued through both.

A similar process takes place by producing the pannary fermentation, in bread, by yeast or leaven, causing and extending something like organization through the mass. And one as remarkable, and not dissimilar, is the action produced in the human body by inoculation.

The mixing of pomace with the cider, when pressed, and leaving it to ferment, is not essential; it is, however, useful in getting rid of much sediment that is useless.

The periods of mixing and quantities mixed, are those I have used, and may be varied: but, by mixing at such periods, and in such proportions, the vinegar will not, at any time, be made perceptibly less acid by the mixture. Vinegar is frequently made of water cider, but the water does not become vinegar; the vinegar is only so much weaker by the water in its composition.

Respectfully, A. W. CORSON.

THE WEATHER.—The *Horticulturist*, like the "honest angler," is a great weather watcher. It may therefore be interesting to compare the present hard winter, and its effects, with similar seasons in former years. This I have an opportunity of doing, by referring to the records of the Secretary of the "Cincinnati Angling Club," for the past twenty-six years.

Besides recording the exploits of the "brethren of the rod," with their finny prey, it was made the duty of the Secretary to take careful notes of the weather.

In *duration* of cold weather, the winters of 1830-31 and of 1831-32, will compare with the present, and, in *severity*, the month of February, 1835. The cold weather commenced on the first day, and continued throughout that month with but little intermission. The 6th, 7th, and 8th, were *intensely* cold days. The thermometer was down to 17° below zero on the 7th. This was the coldest day in this vicinity, since 1797, until the present winter, when the mercury fell, on the 9th inst., to 20° below zero, in an average of observations within ten miles around the city.

In 1831 and 1832, the peach and early cherry buds were killed; both were bad fruit years. In 1835, the peach, cherry, and many of the pear buds, were destroyed; and, in some localities, the peach-trees, and finer variety of cherry-trees, were killed. The orange-trees in Louisiana and Florida were killed down to the ground in 1835.

Most of the peach buds, and the buds of the finer variety of cherries, are destroyed; and, in some instances, the young trees.

It is reported, that in some warm situations, where the grape buds were swelled prematurely in autumn, that they are also killed. But I think the grape, apple, hardy pears, and plums, and the Morello cherries, are safe yet.

R. BUCHANAN, *Cincinnati*, 22d of January, 1856.

A SUBURBAN OR COUNTRY RESIDENCE.* By R. MORRIS SMITH, Architect, Philadelphia.—This cottage was designed by me for a suburban residence for a small family, and was erected near Philadelphia. It would be suitable as a country residence, or, with some small additions, as a farm-house. It was intended to combine the comfortable accommodation of a family of moderate size; some degree of luxury in the interior, and picturesque ensemble, with a neat, yet roomy compactness, that should avoid the large, unnecessary expenditure so frequently caused in building, by a slovenly and half-studied plan (through which we often find large, useless, yet costly spaces left here and there, and dignified, on the plan, with the names of "lobby, passage, ante-room, vestibule, salon," and what-not, unless in the

* See Frontispiece.

upper stories, where they are more generally not indicated); and thus to bring the building within the compass of moderate means.

The actual cost of this building was about \$3,500. The exterior is designed after what is termed the Italian bracketed manner, a style much in vogue for country buildings, but differs from the common examples in partaking somewhat the character of the "Swiss" cottage. The first floor comprises—1st. A drawing-room, 15 feet by 27 feet, with a bay window, 6 feet by 4 feet, which commands a very fine view, fifteen or twenty miles in every direction. This room is surrounded on two sides by a wide veranda, between which and the drawing-room, the communication is by glass doors. 2d. The hall, 7 feet 6 inches by 19 feet, opening on the veranda, at the back, and on the front porch, at the front end. 3d. The dining-room, 13 feet 6 inches by 18 feet, and enlarged by a bay of the same size as that in the drawing-room. This room communicates with a china-closet under the main-stair, and a pantry-closet, 4 by 4. This latter has next the kitchen, a small opening with a slide, by which hot dishes can be passed through. 4th. The kitchen; between this and the dining-room, the back-stair ascends to the second story, and descends to the cellar, where there is a large pantry or "cold cellar," 3 feet below the level of the other cellars, a hot-air furnace with the necessary bins for coal, &c. The kitchen is 13 by 14 feet, with a closet, a large dresser, and a range with boiler. The summer or wash-kitchen, besides cooking apparatus, has an iron sink with hot and cold water.

The ceilings in the first story are 11 feet in the main, and 8 feet and 6 inches in the back buildings. In the second story, the space over the drawing-room is divided into a larger and a smaller room, 15 by 15, and 15 by 12, while the space over the dining-room is in one, 18 feet long by 13 feet 6 inches wide. The space at the front end of the hall, 5 feet by 8 feet 6 inches, including partitions, is divided as follows: 1st, two 3 inch closet partitions; 2d, a large central closet, 5 feet by 3 feet, communicating with the room over drawing-room by a two feet passage, and with a window on the porch balcony; 3d, a closet 3 feet by 3, in the angle of the L, formed by the above closet and passage, and opening also into the drawing-room chamber; 4th, a closet 5 feet by 2, opening into the dining-room chamber. The smaller drawing-room chamber has a closet partly in the thickness of the wall. Over the kitchen is a small room, 12 feet by 13, with a recess closet, which communicates with the main-stair landing by the back-stair quarter-pace. It will be seen that this room is 2 feet smaller than the kitchen. This 2 feet is a short passage thrown into the bath-room, which is over the dining-room closet, and 2 feet larger both ways, being 6 feet by 6, or 8 feet with the passage. The bath-room has hot and cold water, and water-closet. The bath-tub against the dining-room partition, and the sloping end of the tub being next the back-stair, head-way for the stair is contrived under it. The second story ceilings are 9 feet main, and 8 feet back. There are two finished attics; the one over the drawing-room is 15 feet by 27, with a window at each end, and could be divided easily into two good sized rooms. The other, over the dining-room, is 13 feet 6 inches by 18 feet. These are level-ceiled for two-thirds of their space, and the slope-ceiling approaching the floor nowhere nearer than 6 feet. The level-ceiling is 8 feet high.

The cupola is 7 feet 6 inches by 7 feet 6 inches, and a most magnificent prospect is commanded. The cupola floor is 6 feet above the third floor, and is reached by a stair running crosswise of the hall, while between the two floors a space 5 feet by 7 feet 6 inches, is appropriated to closets. The chimney flues are gathered together in the loft into one stack, which rises behind the cupola, and is concealed by it. It will be seen that, in this neat cottage, every foot of space is turned to account, while ample accommodation is obtained for the moderately sized family for whom it was intended.

CINCINNATI.—Our correspondent at Cincinnati says, their coldest days were the 3d and 4th

of February, 28° to 24° below zero, and the ice in the river 18 inches thick; snow in the central and northern part of the State averaged over two feet in depth.

LEMONS.—It is strange, says the *Texas Gazette*, that no one has entered into the production of this fruit upon the coast of Texas as a regular business. The production of lemons alone would be a profitable employment. There is no danger of glutting the market, however large the product may prove. Last year there were imported into Boston, from the Mediterranean alone, 46,000 boxes of lemons and 47,000 boxes of oranges. These are but insignificant items in the total imports of the United States during that time. Upwards of thirty dollars worth of lemons have been sold in a single season from a young tree in Galveston. No trouble but that of planting is requisite.

DUCHESS D'ANGOULEME AND SHELDON PEAR.—The annexed is the outline of a Duchess d'Angouleme Pear (Fig. 1) that grew last season in the garden of Thomas R. Thompson, in Elizabethtown, New Jersey, on a standard tree taken from the nursery of Mr. William Reid. It was forwarded to us anonymously, and we consequently felt some doubt about the enormous proportions; but, on application to Mr. Reid, the well-known nurseryman there, we received the following note:—

ELIZABETHTOWN, N. J., Nov. 28, 1855.

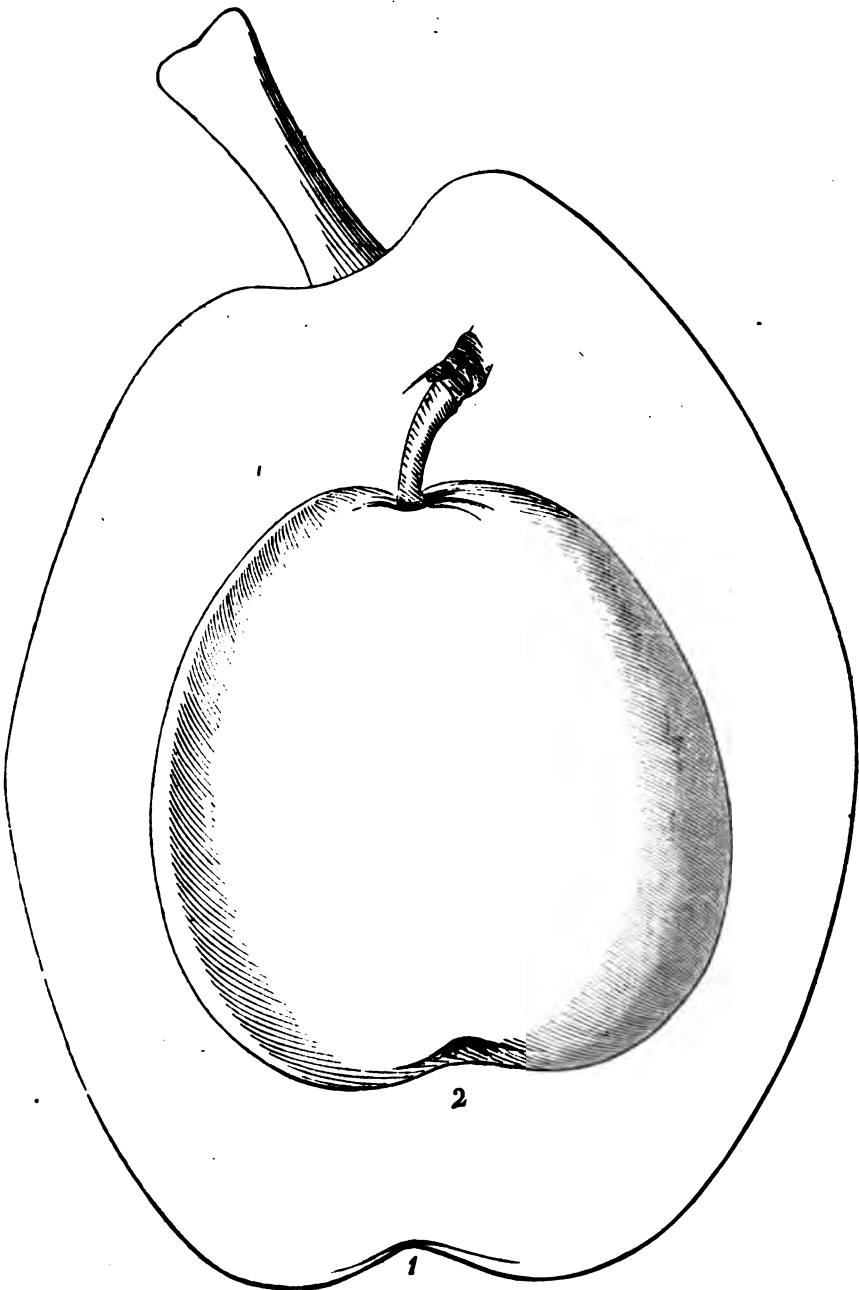
J. JAY SMITH, Esq.—DEAR SIR: The specimen of Duchess d'Angouleme Pear which you refer to, the outlines sent you by Chas. Davis, Junr., of this place, grown by Thos. R. Thompson, of Elizabethtown, is correctly described. The measurement was 15 inches longitudinal circumference, by 13½ inches, as represented. This Pear was brought to my place by the grower, to look at before being eaten. I had heard of this Pear before I saw this specimen, but having so many fine specimens, I took no notice of it until I saw it; I at once thought the size exceeded anything I had ever seen, even putting me, as you observe, in mind of a monstrous specimen I saw at some exhibition, made out of wax. It was very solid and heavy, and, to all appearance, juicy and perfectly melting; the weight is correct, having been weighed by several scales in town, viz: 1 lb. 12 ozs.

Yours, &c., WM. REID.

Fig. 2, SHELDON PEAR.—The Duchess is so large, that we have availed ourselves of the space to figure again that growing favorite, the Sheldon, of which Dr. Brincklé has kindly favored us with a better description than has yet appeared.

SYNONYMS.—Bland, Huron, Wayne, Wisner. *Size*, large, two and three-fourths to three inches long by three to three and one-fourth broad; sometimes weighing sixteen ounces. *Form*, usually roundish, obovate, sometimes obovate, inclining to pyriform, occasionally truncate. *Skin*, green russet, becoming yellow russet, sometimes only faintly russeted, and very rarely with a brownish-red cheek. *Stem*, variable in size, usually five-eighths of an inch long by three-sixteenths thick, often one-half by one-fifth, occasionally one by one-eighth, inserted sometimes obliquely, in a narrow, superficial, and, occasionally, rather deep cavity. *Calyx*, small, segments deeply cut, usually open, sometimes closed, often partially reflexed, set in a basin rather variable, usually superficial and narrow, sometimes wider and deeper. *Core*, medium. *Seed*, small, brown, five-sixteenths of an inch long, nearly three-sixteenths wide, and one-eighth thick. *Flesh*, yellowish white, buttery, melting, abounding in juice, texture granular, with some grittiness about the core, extending to the stem and calyx. *Flavor*, rich, perfumed, and somewhat vinous. *Quality*, "very good." *Maturity*, October. *Wood*—young shoots, yellowish brown; old wood, grayish brown. *Growth*, upright.

HISTORY, &c.—The Sheldon Pear is a native of Wayne County, New York. The original tree stands in the town of Hunn, on the premises of Major Sheldon, and sprang from seed



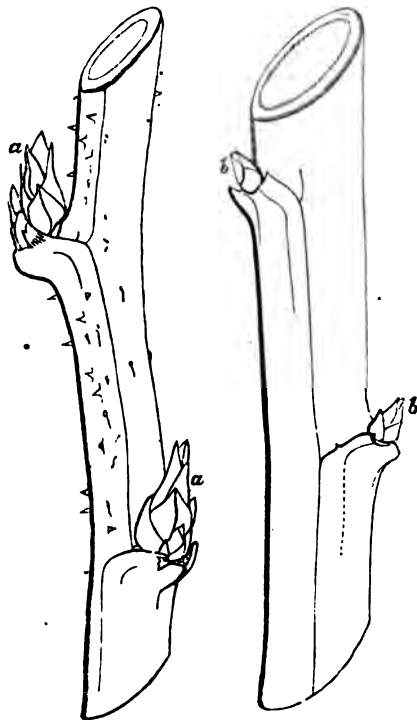
DUCHESS D'ANGOULEME.

planted by his father nearly forty years ago. Two other trees in the vicinity, one on the farm of Mr. Norman Sheldon, and the other on that of Mr. Wisner, are also said to be seedlings bearing fruit very similar to the Sheldon. They have been carefully examined by competent judges, who assure us that they present no appearance of ever having been grafted or budded. And yet, no one who has seen the fruit from these three trees, can for a moment entertain a doubt as to their perfect and entire identity. The only way of reconciling the discordant facts and statements of the case, is to adopt the more than probable conclusion, that two of them are unworked suckers from the remaining one. Such, I have been credibly informed, is now the conviction of Major Sheldon.

A description of the Sheldon was published in *Honey's Magazine of Horticulture* for June, 1851, and in the *Horticulturist* for January, 1853.

PRUNING THE RASPBERRY.—The accompanying figures represent the wood of the preceding summer's growth.

The portion with buds, marked *a a*, is from the upper part of the shoot; that with buds, marked *b b*, is taken from the lower part of the shoot or cane. The buds *a a*, can scarcely be termed blossom-buds, inasmuch as they do not contain the rudiments of flowers like the blossom-buds of larger fruit; but each of them possesses the power of producing a branchlet, and on this blossom-buds are formed. The buds *b b*, on the lower part of the cane, do not generally push unless the upper have been cut away, and then the lower are stimulated, producing, however, shoots and fruit later in the season than those obtained from the buds *a a*. Advantage has been sometimes taken of this, to procure a succession of fruit in autumn.



Raspberry shoots, or canes, growing up in one summer, and producing fruit in the next, and then dying to the ground, a succession having, meantime, sprung up. The pruning usually consists in the obvious operation of cutting away all the dead wood—that which has borne fruit; and, in the shortening that which is alive, thinning the canes so as to leave three, four, five, or six, from a plant, according to its strength.

An improvement may, however, be effected on this general mode. As the finest and best of these fruits are, in all cases, the produce of strong and well-ripened canes, it becomes necessary that the shoots should have every advantage afforded them. This may readily be effected by causing all the former year's canes to be cut down to the ground as soon as they have produced their crop, instead of

allowing them to stand till the winter or spring; this removes an unnecessary incumbrance, and, at a season when sun and air are of infinite importance to the young canes, and, consequently, to the succeeding crop.

In autumn, or the early part of winter, the young canes should be shortened to about four-fifths of their original height, or to the place where the growth of the upper part of the shoot forms a sort of bending or twisting. They may then be either tied to stakes or arched, by tying their tips to those of the adjoining plant. When a late succession of fruit is desired, some plants may have all their shoots cut back to within a few inches of the ground.

VINEGAR PLANT.—Two of our correspondents say that the vinegar produced from the vinegar plant is as good for pickling, or any other purpose, as cider vinegar; to make it *as sour* as which it is only necessary to add a little more sugar, or, what is better, molasses.

VINEGAR ANIMAL.—Huc, in his travels in China, gives a curious account of the "Vinegar Animal," a polypus found in the Yellow Sea, which is placed in a large vessel filled with fresh water, to which a few glasses of spirits are added; and, after twenty or thirty days, this liquid is transformed into excellent vinegar as clear as spring water, very strong, and of a very agreeable taste. Additions of pure water, without any more spirit, are all that is necessary to insure a perpetual supply. Like other polypi, it propagates from a detached limb. The formic acid of ants, and the exudations of the slimy grub which feeds on our pear leaves, contain vinegar.

MUSCATINE, ILLINOIS.—Portions of a new Directory for 1856, of Muscatine City, Illinois, have been forwarded to us. It is compiled by John Mahin, and contains much valuable information in the way of statistics. It appears that the population of Muscatine County in 1838 was 1,247, while in 1855 it reached 14,000. The work contains tables of the early and late frosts. The earliest is October 8th, and the last June 6, the middle of May being the average. The table of rain is complete, and was made for the Smithsonian Institute by T. S. Parvin.

GRASS.—Ruskin, in his last volume of *Modern Painters*, remarks upon grasses as follows: "Observe the peculiar characters of the grass, which adapt it especially for the service of man, are its apparent *humility* and *cheerfulness*. Its humility, in that it seems created only for lowest service—appointed to be trod on, and fed upon. Its cheerfulness, in that it seems to exult under all kinds of violence and suffering. You roll it, and it is stronger the next day; you mow it, and it multiplies its shoots, as if it were grateful; you tread upon it, and it only sends up richer perfume. Spring comes, and it rejoices with all the earth—glowing with variegated flame of flowers—waving in soft depth of fruitful strength. Winter comes, and though it will not mock its fellow plants by growing there, it will not pine and mourn, and turn colorless and leafless as they. It is always green, and is only the brighter and gayer for the hoar-frost."

COTTAGE LIFE.—"How I should like," said Grattan, one day, to Rogers, "to spend my whole life in a small, neat cottage! I could be content with very little; I should need only cold meat, and bread, and beer, and *plenty of claret*." The idea of a well of Bordeaux, in place of the

"Willow brook that turns a mill,"

is capital and characteristic.

CONTRADICTING.—If we are not mistaken, we have the counterpart of the following in America: One of Rogers's friends said, that ——— was so fond of contradiction, that he would throw up the window in the middle of the night, and contradict the watchman who was calling the hour!

EDITORS TABLE.

THE NEW YORK HORTICULTURAL REVIEW, issued in New York, having been merged in the *Horticulturist*, subscribers to the former will be supplied from this office for the remaining period of the year for which they have paid.

The *Horticulturist* is now so well known and established that the undersigned feels confident his own subscribers will at least not be losers by the exchange, and he cordially invites them to become readers of a work that is esteemed wherever it is known.

In taking leave of my friends, I plead only pressing business engagements, which oblige me to give up a post that otherwise it would have been both my pride and pleasure to have continued.

C. REAGLES, *Editor and Publisher.*

New York, March 15, 1856.

NOTICE.—The Subscribers to the *New York Horticultural Review* who wish to possess the *Horticulturist* complete for 1856, can do so by remitting one dollar. Those who do not desire this will be supplied for the six months they have paid C. Reagles in advance.

SPRING.—Who would quarrel with winter when May was present, or grieve over the many disasters that are passed, when the lilac and the apple-blossom were about to present their accustomed beauties? Adieu! all ye dead foreign interlopers, who come among us to rival our hemlock, first king of evergreens, and all the frightened array of false recruits whom we had taken into our confidence, and who have deserted so soon; we grieve not for you. We would fain have cultivated and enjoyed some of the foreign world's wonders of beauty, but many have faded, and we must look about, and care for those that faithfully stick by us amid the wintry storms, and cheer us with their brightened faces when spring reappears.

The full returns of plants injured or killed cannot be fully ascertained at the time we write, but in our May issue we hope to record what has been the experience in various points of the compass, and we now invite information from our friends.

The following lines from Mason's "English Garden," will strike some of the sufferers as just:—

"Nor will her prudence, when intent to form
One perfect whole, on feeble aid depend,
And give exotic wonders to our gaze.
She knows, and therefore fears, the faithless train:
Sagely she calls on those of hardy class
Indigenous, who, patient of the change
From heat to cold, which Albion hourly feels,
Are brac'd with strength to brave it. These alone
She plants, and prunes, nor grieves if nicer eyes
Pronounce them vulgar. *These she calls her friends,*
That veteran troop, who will not for a blast
Of nipping air, *like cowards, quit the field.*

* * * * *
Warn'd by his error, let the planter slight
These shivering rarities."

This advice is now forced upon us. In general, to "slight," or plant but few of those rarities of foreign origin which have not been thoroughly proved in your own latitude, is a good rule.

THE OHIO POMOLOGICAL TRANSACTIONS, 1855 and 1856, have been issued in one neat pamphlet, of 64 pages. The discussions will be found interesting and valuable, tending as they do to clear up unsettled opinions, and bringing the cultivator nearer to the facts. The topic of transporting trees on railroads was brought before the society, and the conclusion arrived at by Mr. Bateman, who had corresponded with some officers of roads, was that it

was cheaper and better to pack trees in boxes, when it can be done, as most of the roads will then carry them at the rates of other light goods; this is a correct move. Mr. B. does not hesitate to publish the names of those who do not do their duty in this matter; a reform is expected. Mr. Ernst said his only hope for cherries, in the region of Cincinnati, was the mahaleb stock, and the pyramid form, which has branches to the ground to furnish protection from the vicissitudes of summer changes; for standards he recommended budding the finer varieties at some height, making the body of the mahaleb stock. Mr. Elliott had practised root pruning on the pear root, and had produced fruit just as early as if grown on quince; he did not recommend planting on the quince root, unless growers expected to cultivate their trees highly, and nurse them as carefully as a woman tends her child. As a general tree for orchard culture, he thought the quince stock should not be used. This agrees with the results arrived at in the New York meeting, and coincides with the opinion of our correspondent, Dr. Ward. A very good committee was appointed to attend the National Convention, at Rochester, the coming fall. There is much to interest in the work, including the address of President Ernst.

THE Brooklyn Horticultural Society's premiums for 1856, embrace a great variety of plants and vegetables.

THE TRANSACTIONS OF THE WISCONSIN FRUIT GROWERS' SOCIETY have been published at Milwaukee, in a handsome pamphlet of sixty pages, which contain matter of much instruction. They reached our table after this number was ready for the press.

MOUNT VERNON HORTICULTURAL SOCIETY.—Its Constitution and By-Laws are upon our table, but, except that it is printed in New York City, there is no clue to the place where said Society is located.

THE Proceedings of the Fruit Grower's Society of Western New York have been published, making a very valuable work for reference, of 140 pages. Thirty cents, in postage stamps, remitted to H. E. Hooker, Rochester, will procure a copy.

THE "North Western Farmer," Issued at Dubuque, Iowa, appears to us to meet the wants of that region remarkably. The lady at the head of the "Ladies' Department" would grace any position.

THE PREMIUM LIST of the Cincinnati Horticultural Society, for 1856, is most liberal. The \$100 premium for a cheap, practical and efficient remedy for the curculio is continued, and \$500 for a new hardy grape, a good bearer, making a light colored wine, superior in all respects to the Catawba, as a still and sparkling. Our friends should keep a bright lookout, and pick up the money.

RESOLUTIONS OF THE HORTICULTURAL SOCIETY.—At a late meeting of the Pennsylvania Horticultural Society, the following extraordinary preamble and resolutions were adopted in reference to the proposed supplement to the Act of Consolidation, authorizing the Councils to sell the Centre Squares, at Market and Broad Streets, and purchase more extensive grounds:—

Whereas, This Society has in view, as among the objects of its creation, the rural adornment of our city, the securing of pure air, and necessary recreation for the greatest number of its inhabitants, and the promotion of the prosperity and happiness of its entire people by multiplying the means for a cultivated taste in the walks of nature. Be it, therefore,

Resolved, That the proposition for the sale of the "Centre Square," and the conversion of the proceeds thereof into more extended accommodations for the benefit of the public, meets with the cordial concurrence of this Society.

Resolved, That this Society regards those plots of ground known as the "Centre Square" as too diminutive to attract any considerable number of visitors, and the resort to them on the part of the young as attended with no little danger, on account of the proximity of the railways, and the consequent peril of crossing them whilst the cars are in motion.

Resolved, That this Society would rejoice to see the "Centre Square" occupied for business purposes, as it was originally intended to be by the great founder of the city; whilst the public would gain largely by its exchange for other grounds in more eligible portions of it.

Resolved, That a copy of this preamble and these resolutions, signed by the President and

Secretary, be forwarded to our Senators and Representatives in the General Assembly, at Harrisburg.

We cannot but regret this action of our fellow-members of a valuable Society, and trust their resolutions may not prevail. Give us more lungs, but do not curtail or destroy what can never be replaced. If a greater amount of ground were procured out of the town, it would be less useful than space within a thickly populated section.

DOWNING'S LETTERS are closed to-day with regret that they are so few. It must be that some of our readers possess notes and letters from him that are worthy of publication.

A lady, whose communications we always value, makes the following remarks, which are worthy of consideration. She says:—

"You are favoring the admirers of Downing with a rare treat. We are all a little curious to peep behind the veil which separates the public life of one we admire from his private character. Our admiration of public deeds is enhanced when we find the *real* life so every way worthy of respect and love.

"Is there not a good deal of contagious enthusiasm mingled with our admiration of Downing? An enthusiasm enhanced by the manner of his early death. *Comparatively* speaking, we might say there were few who knew his real worth—and how admirable he was—till he was gone from us forever? Downing was the pioneer in the broad and beautiful field of 'Rural Art and Taste.' Other minds as great and possessed of as varied talent, and, perchance, as capable of imbuing the people with a love of the beautiful, *may* come after, but for a time they will appear to follow in his wake, will seem, if not to copy, to gather suggestions and impulses from one 'gone before.' Goethe says, 'that a man should be able to make an epoch in the world's history—two things are essential—that he should have a good head, and a great inheritance, as Frederick the Great inherited the Silesian war, Luther the errors of the Popes,' &c. So Downing inherited the public's lack of taste in rural architecture and landscape scenery. This want of beauty in the surroundings of our country homes was felt and admitted, but the great mass had no realizing *active* sense of the fact. The possessors of rural homes were not wide awake as to the idea that each had individually something to *do* to better this condition of appearances.

"I have a friend so well versed in Downing's writings that her husband says his sayings are household words—oracles not to be disputed. I lent her some bound volumes of the *Horticulturist*, to prove to her that her favorite shade still hovered over it."

LABELS FOR TREES.—Zinc labels are prepared in the following manner: Take half a drachm of lampblack, one drachm of verdigris, one drachm of pulverized sal ammoniac, and dissolve them in ten drachms of water. This will form a permanent ink, which may be used for writing upon strips of zinc, and will last as long as the labels.

THE MUSCADINE GRAPE.—The New Lebanon proprietors of the Muscadine grape are very much dissatisfied with the opinion expressed at the Pennsylvania Horticultural Society respecting this fruit. They think the sample sent was received in bad order; it is extremely delicate, and will not bear close confinement or long keeping, and in unfavorable seasons it drops from the vine soon after it is fully ripe, and loses its delicate and delicious flavor. In good soils, when the vine is closely and properly trimmed, it will hang, they say, for weeks in good condition. It is popular in the Northern States, and they do not consider that it has had a fair trial here. Next season we shall, perhaps, have a fuller report. The demand for the vines is declared to be great. Will Messrs. Hawkins & Stewart forward a root or two hitherward for experimental purposes?

GERMAN EXPERIENCES.—A friend has translated the following from the *Frauendorfser Blätter*. Will he favor us with his present address?

The unpleasant odor diffused through water in vases in which cut flowers are kept, it is said, may be prevented by placing a small strip of sheet iron in the vase.

In Italy, grapes are kept "fresh and fine" during the year, by placing the clusters, after removing all the imperfect, immature, specked, or decaying berries, in a box with alternate layers of green peach leaves. The box is to be covered and set in a dry, cool room, free from frost.

In Germany, plums, prunes, and gages are preserved in a fresh state, in the same manner, only substituting pear leaves for those of the peach.

Rats are said to have such an antipathy to the odor of the herb houndstongue (*Cynoglossum*)

sum officinale), that they will forsake a building within twenty-four hours after the leaves and stems of this plant have been strewed therein. It should be gathered when in flower, and the more freshly it is used, the more certain are its effects alleged to be.

PROPAGATION OF THE CAMELLIA.—Though the mode of multiplying the camellia by means of leaf-buds has been some time introduced, it is not yet so extensively known and employed as it deserves to be. Many amateurs and cultivators are entirely unacquainted with the process which furnishes the readiest means of propagating any particular variety with great rapidity and entire success, since every leaf-bud, even those on wood of the previous year, may be used. The proper time for employing this method is at the end of February, and in July, before the plant produces new shoots. The buds are cut and shaped very much as they are in ordinary budding, only retaining a somewhat larger portion of wood. The best soil is a good sandy loam, somewhat retentive of moisture, and it is to be pressed moderately close into a pot or box. The leaf-buds, prepared as stated, are then placed on the soil with the wood or cut side flat to the ground, gently pressed in, and secured by neat small wooden hooks. A glass plate is then laid on the pot or box, which is to be set in a hotbed newly prepared; and it should be remembered that camellia cuttings can scarcely ever be kept too warm, if care be taken to supply the requisite amount of moisture, and to keep them shaded from the direct rays of the sun. The hotbed in which the pot or box is placed, should be renovated every three or four weeks, as a steadily continued and equable heat greatly aids the formation of roots. The cuttings made in July will root in the course of five or six weeks, but should be allowed to remain in the hotbed till the middle of October, and they may then be kept in the same pot or box in a cold frame during the winter, to be transplanted in the spring. Those made in February are usually of more rapid growth, and if transplanted in May, in a loamy soil, will attain a height of ten or twelve inches in the course of the ensuing summer.

I have repeatedly employed this mode of propagating camellias, with great success, and can confidently recommend it to cultivators in general. R. M.

A decoction of common elder leaves (*Sambucus niger*) has been successfully used, in Germany, to preserve rose-bushes, and other flowering plants from mildew, aphides, &c.

It has been ascertained by numerous experiments, that certain plants are much less sensitive to the influence of chloroform at night than they are in daytime; and it has hence been suggested that delicate and tender plants might, perhaps, be most successfully transplanted at night.

Fruit jellies may be preserved from mouldiness, by covering the surface one-fourth of an inch deep with finely pulverized loaf sugar. Thus protected, they will keep in good condition for years.

TEMPLE OF SOMNAUTH.—As the gates of Solomon's temple, at Jerusalem, and those of St. Peter's at Rome, are said to have been made of the cedar of Lebanon, so it has been ascertained, says Sir W. J. Hooker, that the gates of the temple of Somnauth are constructed of the Indian cedar, or Deodar.

CLAUDE LORRAINE'S LANDSCAPES.—The stone pine, *Pinus pinea*, is the pine of Claude Lorraine's landscapes, so often painted, and with such picturesque effects.

THE SEED SEASON. *Dreer's Flower Seeds.*—We received, by mail, a few days since, a considerable package of the flower seeds advertised in the supplementary sheet, in the best order, proving that the post is a suitable medium for this kind of distribution. Mr. D. informs us, that he commenced this mode ten years since, and adds: "I find the *Horticulturist* one of the very best mediums of advertising, and have been well repaid for every dollar expended therein." This is the universal experience of all from whom the publisher hears.

LANDRETH'S SEEDS.—In a former year the *Horticulturist* gave a somewhat extended description of Landreth's farm, devoted to raising garden seeds, where are now under cultivation for this purpose alone, three hundred and seventy-five acres. His excellent Almanac, with directions how and when to plant, laid upon our table, reminds us to mention that Philadelphia supplies a larger amount of reliable garden seeds, probably, than the whole of the rest of the Union. His and other advertisements, in our supplementary sheet, tell the rest of the practical story. Buist, Morris, and Dreer, also deal largely in seeds, and may be relied on to execute orders with punctuality and correctness. The season for seeds is, of all others, the most agreeable to us—because it is attended by *Hope*.

CUCUMBERS.—We have to acknowledge the receipt, from William Bright, gr. to J. S. Lovering, Esq., two enormous cucumbers, fit almost for a club for Hercules, and such as are handed round *uncut* at dinner-parties in England. They are of remarkably good color and consistence, and deserved the premium received at the Horticultural Society, where they were exhibited the evening previous; they are highly creditable to the grower. (C., of Brooklyn.) Quite too late for this number.

A VERBENA GARDEN.—The beautiful verbenas has become of so much importance as to enlist the entire care of an extensive gardener. Dexter Snow, of Chicopee, Mass., devotes himself exclusively to the cultivation of this beautiful bedding plant, and has sent us a catalogue embracing over 200 varieties; these he will forward by mail to applicants in the Eastern or Middle States, or by railroad, where a quantity is required, to these or more distant places. For the catalogue inclose a stamp.

Mr. Snow says many persons fail in the cultivation of the verbenas. The requisites are that the plants be young, strong, and healthy. They *must* have a full exposure to the sun, from *sunrise till sunset*, for they will not thrive in the shade. The soil should be light and deep loam, leaf mould from the woods (or well rotted chip dirt), and fine white or silver sand. An occasional watering with liquid manure, made by dissolving one lb. of guano in ten gallons of water (letting it stand twenty-four hours before using), once a week, will be found beneficial. The soil should be kept loose about them, and well worked.

Mr. Snow's is the only catalogue in the world devoted exclusively to verbenas, and is a curiosity. This collection must be well worthy of a visit. Most verbenas have a tendency to grow upright instead of the true form, a dwarf, with close spreading habit, broad segment of petal, well defined eye, and good foliage; they should have good stamina, so as not to be burned out in midsummer. The scented varieties should not be forgotten in making selections.

A. BRYANT'S Catalogue of Fruit and Ornamental Trees, Shrubs, and Plants, for sale at the Persimmon Grove Nursery, Princeton, Bureau County, Illinois, indicates the possession of one hundred thousand fruit trees.

BABCOCK & VAN VECHTEN, of Albany, forward us their descriptive catalogue of draining tiles.

GRAPE-VINES, &c.—We have inspected the large collection of grape-vines advertised by David Ferguson, at the Falls of Schuylkill, Philadelphia, and can, therefore, vouch for their excellence; to persons planting graperies, &c., they will be a treasure. He also advertises a number of new and valuable strawberries, evergreens, and shrubbery.

AGRICULTURAL DIVISION OF THE PATENT OFFICE. REPORT FROM PHILADELPHIA.—Mr. R. Buist, a seed grower, who resides in Philadelphia, received some seed from the Patent Office, which, he says, grew well. Of some Japanese seed he says: "In beans there are two new varieties, one of brownish yellow cluster bean, which is very prolific, and which promises to be an acquisition; the other is a large variety of running bean, which, though new, does not bear well, and is not of a good quality for eating. The most decided acquisition is a blood red cabbage lettuce, of excellent quality, which stands the heat of summer well, and gives us heads when no other variety will head. This will be a leading variety amongst that class of vegetables for a warm climate."

ROSE-COLORED HALENIA.—Some years ago, Mr. Leroy, of Angers, gave notice that he had a Silver-bell tree, *Halesia tetraptera*, with rose-coloured flowers, which he had propagated very largely. Have any of our readers seen it?

PAVIA CALIFORNICA.—Have any of our correspondents specimens of the Californian horse-chestnut (*Pavia Californica*), or of the Californian oak (*Quercus Californicus*)?

COCHINEAL.—The annual export of this article from Mexico alone is equal to two millions and a half of dollars. As this little oocous feeds upon a plant, *cactus coccinellifer*, it affords an additional item of the value of vegetable productions. The insect has the power of extracting the juices and converting them, by a chemical process, into the richest scarlet dye; but it is not so generally known that the fruits of the Nopals secrete the same color, and excellent cochineal has of late been obtained from the fruit, as well as from the insect, from the East Indies.

PATENT OFFICE SEEDS.—We are indebted to Mr. Charles Mason for a package of seeds from the Patent Office.

GEO. C. THORBURN, of Newark, N. J., sends us his large catalogue of the best new Dahlias, Fuchsias, Verbenas, Petunias, Antirrhinums, Scarlet Geraniums, Chrysanthemums, &c. There is a world of beauty concealed in those three enormous pages; those who will read his advertisement will not fail to be struck by his collection. An article on Fuchsias, in this number, will make many desire to possess the new varieties.

THORBURN's Descriptive Catalogues, for 1856, are comprehensive; in flower-seeds it would seem that every taste may be suited.

NICHOLSON & SON, at East Rockport, Ohio, issue a good Catalogue from their Lake Erie Nursery, principally of dahlias, fuchsias, roses, and bedding-out plants.

CHORLTON'S GRAPE GROWER'S GUIDE.—Mr. Saxton, of New York, is enriching the literature and practice of gardening and fruit growing, with a collection of hand-books, in many of which he is very happy in his authors. Among the best is "The American Grape Grower's Guide, intended especially for the American Climate." The whole story is here told accurately, no less than scientifically. There seems to be a great deal to learn, but when the subject is once understood, grape growing is a more simple business than would at first appear, and in Mr. Chorlton's work the information may be obtained. It is most particularly devoted to the grape-house, though the vineyard is also treated of. We wish we had space in this number for extracts.

PARDEE ON THE STRAWBERRY.—From the same publishers we have "A Complete Manual of the Strawberry, by R. G. Pardee, the third revised edition," in which all that can be said on the subject is embodied. The work embraces notices of the raspberry, blackberry, currant, gooseberry, and grape.

AUSTRALIAN SEEDS.—Mr. Fowler, who was employed by the Australian and Van Dieman's Land Government to collect seeds, is now in this country, and advertises, in our columns, some rare seeds, such as *Acacias*, *Kennedias*, *Pultenias*, *Indigoferas*, &c. &c., at a moderate price, affording an opportunity which rarely occurs for amateurs and others to procure rarities.

HENRY LITTLE & Co., of Bangor Maine, continue to furnish seeding evergreens at very low prices.—See *Advertising Columns*.

EDITOR HORTICULTURIST.—In "Jeffreys'" pleasant critique on the *Horticulturist* for January, there occurs the following remarks on the design forming its frontispiece; "I don't fancy the round window perked up into the eaves of the tower front," as "the room connecting with it was not wanted." Agreeing with "Jeffreys," that the effect would be improved by the omission of this window, the fact however is, that the room connected with it *was* wanted, and it was precisely with the object of *enlarging* this room, that beauty was here made to bow to utility, in the use of a *projecting* dormer, instead of the *sunk* ones employed elsewhere in the building. I do not, still, think that the effect is, by this, materially injured.

R. MORRIS SMITH.

In a business letter from Massachusetts, an agent says that one of his subscribers has declined, because the *Horticulturist* was removed so far *south*! If he had been here in January, when the thermometer was many degrees below zero, he would scarcely have thought us in a southern latitude. Other agents, there and elsewhere, have largely increased their subscriptions. From Cincinnati we have the following:—

"I am glad to learn that your prospects are very satisfactory, that your subscription list is largely on the increase. I am sure it deserves to be so. Philadelphia is eminently suited as the location of the leading horticultural journal of the land. The long and extensive experience of a very large class of intelligent practical and amateur horticulturists, with ample means at command for experimenting, and testing unsettled points, have given her an advantage over any other city of the Union. Of course these elements are essential aids to sustain and support the editor in his laborious task. With my best wishes for your success,

Very respectfully,

A. H. RANST.

ANSWERS TO CORRESPONDENTS.—The *Horticulturist* is "put to press" earlier in the month than formerly; partly owing to an increased edition, but, mainly, that it may be issued with great punctuality; a point that is found to be very acceptable to its readers; consequently, answers to correspondents received after the middle of the month, and sometimes even earlier, may be crowded out by matter already in the hands of the printer. It is the wish and intention of the publisher to have the work in the hands of every agent, and at every post-office, by the first of the month.

(C. M. M.) If you will watch an elm-tree making its growth the present year, you will notice that, if the season is moist and cool, the shoots will continue to lengthen till midsummer; but if, on the contrary, the season is a dry one, all growth will be over by the middle of June; simply because the moment the moisture in the soil fails, and the roots feel the effects of the sun, the terminal buds form at the end of each shoot, and then all growth for the season is over. We give you this as an illustration of the necessity of deepening your soil for your trees, so that the roots can go on growing in its cool, moist depths; and you will necessarily have tops also, with more growth in three years than otherwise in ten.

(M. X., Massachusetts.) The parsnip should not be grown in very rich soil, except the ground be dry and calcareous; its nutritive properties consist of ninety-nine parts in a thousand, of which nine parts are mucilage, the remaining portion being saccharine matter. In rich, damp soils, it acquires a rank taste, and is less sweet and agreeable than when grown on moderately poor soil.

(H. COLLINS, Auburn, N. Y.) The osage orange will succeed in the moderate shade you name, provided the soil is in good order; partial shade does not affect it much, but it is more hardy in the sun. See "an Experiment with the Osage Orange" in a late number; it is one of the most useful articles on the subject extant. If you can accomplish it, the hedge you want is, by all means, one of holly; if you succeed, it will be more to your lasting fame than a costly marble column.

EDITOR OF THE "HORTICULTURIST": You will oblige me, and perhaps many others of the readers of your invaluable and interesting journal, by stating, 1. The cause of the dropping of the fruit of orange-trees when quite small. 2. The best remedy against it.

Most respectfully yours, C. W. GRAU.

In order to answer these questions definitely, we would require to know the treatment the plants receive. Too much, or too little water at the roots, would cause the fruit to drop. The former is more frequently the cause. Insufficient drainage of the tubs or pots, improper soil, and unskilful watering, will produce disease, and, where fruit existed, it of course would speedily drop under these conditions.

You had better turn the plants out of their tubs, clear away most of the soil from their roots, put three inches of drainage in the tub, and repot in healthy, fresh soil (that procured from decayed sods is best.) Set them out of doors as soon as the weather will permit, where they will receive only four or five hours of morning sun; let the soil be kept simply moist; let your waterings be thorough, but only when necessary; so long as the soil appears damp, that is sufficient. In winter keep them dry; if placed in a cool, dark cellar, where there is no furnace, they will need no water from the 1st of December to the end of February, and, if kept in a greenhouse with other plants, they should merely receive sufficient water to prevent shrivelling of the bark.

(B., Massachusetts.) When your cedar of Lebanon cones arrive, instead of endeavoring to extract the seeds, try the experiment of planting the whole cone entire. Mr. Leroy, of Angers, finds they thus have just the necessary state of moisture; they germinate between the scales of the cone, of which latter, many fall to pieces of themselves. It is then easy to take them up and transplant them in the open air, or in pots, and place in a cool, north border. In this mode, which is the nearest approach to nature, nearly every fertile seed germinates. There is less difficulty in germinating these seeds than we formerly believed.

(W. W.) The *Paulownia imperialis* has become an established favorite, both for its curious and fragrant flowers, and its seed-vessel on the tree all winter, and for its rapid growth. Plant one or two by all means. We have seen a shoot of one year's growth, 17 feet in length.

Dr. ESLEMAN'S NOTES, next month.

NOTA BENE.—We must say, once for all, that the editor of the *Horticulturist* can enter into no controversies regarding advertisements inserted in the supplementary sheet attached to this work. If an advertiser there gives occasion of offence to other houses, by offering more goods than he possesses, or attempts to discredit others' wares, the same columns for reply are open to all, provided said reply is not offensive. We do not pretend to exercise any control over those pages; unless attention is called to a particular notice, by addressing the editor personally, the advertisement rarely meets his eye before publication.

A notice, last month, respecting the *Dioscorea batatas*, is deemed offensive, and the publisher has therefore declined its continuance.

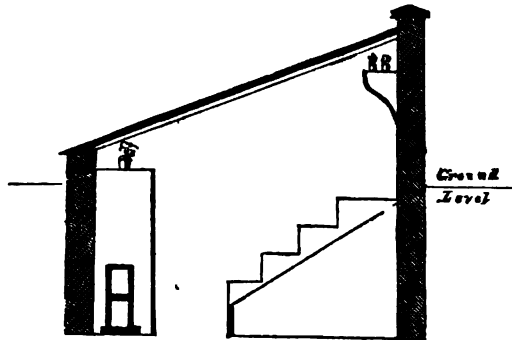
Letters and exchanges, intended for the editor, should be addressed to "Germantown Post-Office, Philadelphia, Pennsylvania."

MOOREFIELD, Ky., Jan. 4, 1855.

DEAR SIR: Will you, or some one of your correspondents, give me a plan for a "cold pit?" One best adapted for preserving and flowering plants in winter. Please mention the most suitable material for construction. I wish one of large size. Don't forget to mention the most convenient mode of protection by shutters; by so doing, you will oblige

A SUBSCRIBER.

To flower plants is a very different thing from merely preserving them. A structure that would answer perfectly for the latter, might be wholly unsuited for the former. A "cold pit" is simply a miniature greenhouse, without any facilities for producing artificial warmth. If our correspondent wishes to flower plants in winter, a small furnace and flue will be requisite. Indeed, under any circumstances, the means for producing heat are desirable to keep the atmosphere free of damp. As this is a kind of house which, we think, ought to be more generally used, we have prepared the accompanying plan. The arrangements are so apparent, that no detailed description is deemed necessary. The dimensions of this pit are as follows: Inside width, 8 feet, height of back wall the same, and the front 5 feet. As all the other parts are in proportion, they can easily be ascertained; of course, the length may vary to any extent. If under 20 feet, the flue should return on itself, as shown in the figure. It should be constructed either of brick or stone; a dry situation should be chosen, and the bottom covered with 6 inches of gravel, sand, or coal ashes. It may be entered by a door at one end, or by merely lifting up one of the



sashes. The best covering is water-proof cloth, hung on rollers, and elevated 6 inches from the glass by a portable framework of lathes, so as to include a stratum of air between the glass and the covering. It is essential that the cover, when in use, should fit closely round the pit; as a protection from frost this system will be found more efficient and economical than any method of wooden shutters. Fire heat will seldom be found necessary, and all kinds of greenhouse plants may be kept in the highest state of health, and flower better than in a close, steaming greenhouse. The mere exclusion of frost only is required, and the day temperature may be allowed as high as 70° or 75° during sunny weather. Water must be carefully administered; the dryer everything can be kept, compatible with healthy growth, the better will it be for the plants. A southeast aspect is best.

(A. W. S.) You have shown great wisdom in saving all the leaves of your trees. They will probably not have decayed by this time, if stacked last fall, but you can have them for use very soon, by the following treatment. Slake fresh lime with brine or with water saturated with salt, till it falls to a powder of muriate of lime. Turn your leaves with a hay-fork, sprinkling this powder over every layer at the rate of four bushels to a cord of leaves. Turn the heap occasionally, and you will soon have one of the best fertilizers; the lime decomposes the leaves, and if the mass is applied to fruit and other trees, and shrubs, you need nothing better; as a top dressing to lawns, it is highly valuable. Mixed with

peat, or dry muck, it might be increased in bulk as well as value. We save, annually, many cords of leaves ready for nourishing trees, &c. As they must be raked up, the cost is nothing.

(B. W., Illinois.) You are on the right track exactly, and can "go to sleep and make money." In planting your 5,000 young locust-trees, cut the plants down at the ground; they will be easier set, more likely to live, and, at the end of two years, will be larger than if the entire tree had been planted. You may have a crop of pumpkins, &c., among them without injury. Will you sell your locust plantation at double its cost? If so, drop a line.

J. JAY SMITH, Esq.—SIR: On Kew Gardens, in No. 1, please to look in London's *Encyclopædia of Plants*, under list of authorities for generic and specific names, you will find that Sir W. J. Hooker is an Englishman (1). Please to inform me if the accentuations in Paxton's *Botanical Dictionary* are all correct. *Scutellaria* is accented *Scutellaria*, page 62, supplement, in London's *Encyclopædia of Plants*; and in Gray's *North American Botany*, it is *Scutellaria*. In Paxton, *Primula* is *Primülä*; in Paxton's *Supplement*, *Primüla*; in Gray and London, *Primula*. Who is correct? (2). Can you inform me, in the *Horticulturist*, if there is any book published in which the botanical names of plants are divided into syllables, suitable for gardeners? (3). P. Q. R.

1. Sir W. J. Hooker would probably be styled an "English botanist," whether born in England, Scotland, or Ireland, as the works for which he is chiefly famed are English works. If we are correctly posted, Sir W. J. H. is a Scotchman by birth, who commenced life in Glasgow as a malster or brewer, and who, by his high botanical attainments, subsequently became Professor of Botany in the Glasgow University, and, in 1840, Director of the Kew Gardens, London.

2. Paxton is not considered high authority in botanical matters. The botanical part of his *Magazine of Botany* was edited by a clerical friend, now, we believe, his son-in-law. In the instances, Gray and Loudon are correct.

3. Paxton's *Botanical Dictionary* is the only one used by gardeners.

A NEW BEGINNER IN THE NURSERY BUSINESS should not send us any communication to which he is not willing to append his name.

(H. E.) We have heard of no demonstration to employ the money (\$5,000) left by the late Elliott Cresson, to plant trees in Philadelphia. We are quite curious to know how it will be employed, and who will administer the fund. It was a noble bequest; will it be properly carried out?

(DR. W. S. KIMBALL, N. J.) You will find what you want in Buchanan's *Grape Culture*, published in Cincinnati.

DEAR SIR: Should arbor vitæ be planted in double or single rows for hedges and screens? An answer in your next number, will oblige
A SUBSCRIBER.

(H. DAVIS, Waterville.) By trimming the tops of white cedar regularly twice a year, it will retain its lower branches for many years, but must ultimately lose them in obedience to the law of its nature; for this reason, it is not now much employed for hedges.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The stated meeting of this Society was held on Tuesday evening, February 19, 1856, at Concert Hall, Gen. Patterson, President, in the chair. Premiums were awarded as follows, by the Committee on Plants and Flowers:—

Camellias, Twelve Cut Flowers—for the best to David Ferguson; for the second best to Jerome Graff, gr. to C. Cope. *Collection of twelve Plants*—for the best to Thos. Robertson, gr. to B. A. Fahnestock. *A Special Premium* of one dollar to Peter Raabe, for a collection of Hyacinths, Tulips, and Crocuses, in pots. *Specimen Plant*—for the best to Mark Hill, gr. to M. W. Baldwin, for *Acacia pubescens*. *Table Design*—for the best to Barry Higgins, gr. to D. R. King. *Basket of cut Flowers*—for the best to Mark Hill; for the second best to J. J. Habermehl, gr. to John Lambert. *Bouquets*—for the best pair to the same.

By the Committee on Fruit. *Pears*—twelve specimens—for the best to Isaac B. Baxter, Broom Park, B. Rance, and St. Germain's.

By the Committee on Vegetables. *Special Premiums* of one dollar each to Mark Hill, for a brace of Cucumbers and a bunch of Asparagus, and to Barry Higgins for a dish of Mushrooms.

The Committee of Finance reported that the Treasurer's account was correct.

The appointment of the Standing Committee for the year 1856, was announced.

A collection of dried specimens of indigenous plants, received through the hands of J. Jay Smith, Esq., from Mrs. Isaac Clement, of Saratoga County, New York, was presented to the Society, and it was, on motion, ordered that the thanks of the Society be tendered to the donor. The following Preamble and Resolutions were adopted (which we have inserted, with a comment, elsewhere.—Ed.).

Three gentlemen were elected members.

OBJECTS EXHIBITED NOT BEFORE MENTIONED.—*Plants* from B. A. Fahnestock's house—twelve plants: *Acacia floribunda*, *A. graveolens*, *Azalea Bealii*, *A. triumphans*, *Burchellia capensis*, *Brachysema acuminata*, *Billbugia* sp., *Centradenia floribunda*, *Chorozema varium*, *Epacris canescens*, *E. alba odorata*, and *Kennedya monophylla*. Specimen—*Mahernia odorata*, also eight *Primula sinensis*.

From C. Cope's houses—cut *Camellias*, *Henry Fourth*, *candidissima*, *Prattii*, *Jeffersonii*, *Imbricata*, *Duchess of Orleans*, *Sarah Frost*, *Tentonia*, *Minuata*, *Princesse Borisschii*, *Duke of Brabant*, and *Fimbriata*.

From John Lambert's, twelve cut *Camellias*, and by Peter Mackenzie, twelve cut *Camellias*.

CHESTER COUNTY HORTICULTURAL SOCIETY.—The stated meeting for March was held in the Hall, on the 8th inst., at the usual hour, Vice-President, J. H. Bull, presiding.

The display of Apples, on the present occasion, has probably never been surpassed at any previous meeting of the Society at this season of the year.

The first premium for display of Apples, was awarded to Joshua Embree, who exhibited twenty-nine varieties. The second premium for ditto, was awarded to Lewis P. Hoopes, who deposited eight varieties.

Amos H. Darlington also exhibited a beautiful display.

A large collection of greenhouse plants was exhibited, from the nursery of Josiah Hoopes. Also, a pair of pretty hand-bouquets, by Mrs. S. H. Fergus.

An election for officers, to serve the ensuing year, was held, and the following were duly elected, viz: *President*—JONATHAN C. BALDWIN. *Vice-Presidents*—PIERCE HOOPES and J. H. BULL, Esq. *Rec. Sec'y*—JOSIAH HOOPES. *Cor. Sec'y*—JOSEPH P. WILSON, Esq. *Treasurer*—JOHN MARSHALL. JOSIAH HOOPES, *Sec'y*.

Calendar of Operations.

APRIL.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—Order, regularity, and neatness, go hand in hand with good cultivation; and nowhere is their appearance of more moment than in this department, whether in respect to the enjoyment to be derived in contemplating the various developments of the crops, or the beneficial influence it confers on their growth. The walks and paths should be kept clean, and all blanks in their edgings repaired. It will not pay one to grow weeds.

Tomatoes, *egg-plants*, &c., should now be removed from the seed-beds, and carefully transplanted either into a frame, or some sheltered spot, where they can be readily protected from cold and dry winds. Choose a rich vegetable soil, and plant a couple of inches asunder. This encourages them to form numerous roots, and they will succeed better on final planting in the open ground. Prepare for planting Lima beans by inserting poles, digging the soil deep, and mixing a portion of well-rooted manure, or leaf mould, in the hills. There is nothing gained by planting this crop too early. The soil must be warm, and in condition to accelerate vegetation before planting, to insure a speedy and vigorous growth. I have always seen the earliest and best crops from those that have not been planted until these conditions could be secured.

Peas should be sown every two or three weeks, to keep up a regular supply. Let the ground be deeply worked for future sowings, otherwise they may not be profitable should dry weather prevail.

Asparagus should now be uncovered, and, if growing in rows, the soil should be forked up between them. In cutting it for use, it is well to bear in mind, that it is superfluous to cut below the surface, the white portion not being eatable. Seed may yet be sown for young plantations. See to the clearing of this crop, and give an early check to the growth of weeds.

Chamomile, sage, wormwood, tansy, and lavender, may have their roots divided, or increased by slips where a stock is required.

HARDY FRUIT.—Pears grafted on quince require deep, rich soil, to derive full benefit from this method of culture. Many failures have occurred, and much disappointment has been occasioned, by those who have planted these without knowing what they were about. Of course, all such failures are attributed to the trees, and the system of grafting them; few people care about taking blame to themselves, if they can by any means shift the responsibility.

Pear culture on this system is not for those who plant a tree as they do a gate-post, and who look upon the after-treatment of both in the same light—that is, leave them till they rot, and then put in a fresh one. In planting, surround the roots with a peck or so of leaf or wood mould; this starts them vigorously. Cover the whole of the quince, and about an inch of the pear-stem, with soil. The quince roots freely from any part of its surface; therefore, deep planting in this case is not injurious, and it prevents the depredations of the borer. If the roots appear stumpy, stunted, and destitute of fibres, cut several upward slits on various parts of their surfaces, to encourage root formation.

The amount of pruning that trees require at planting, depends upon the degree of mutilation and maltreatment the roots have been subjected to. The older the tree, the greater the mutilation the roots are likely to suffer, and, consequently, the more branch pruning will be necessary. For this reason, young trees are better for general planting than older ones; two years from the bud is a favorite age for the removal of nursery trees. At this age, too, they are just in condition for training to any desired form. Young trees that have been neglected during last summer, with reference to pruning, and have shoots three or more feet in length, should have those luxuriant shoots bent down and fixed in that position. Close pruning such shoots only increases their vigor.

Care in disbudding where branches are not wanted, and pinching early the extreme points of those shoots that seem to grow too strong, will early attract the attention of those who wish to see a perfect and well furnished tree.

GRAPERY.—As the young shoots progress, tie the canes up to the rafters, but keep their points pendant until the lower buds are well into growth. Attend early to disbudding—a very necessary operation on close pruned vines; of course leave the strongest shoot. Syringe over the plants during the early portion of the day, and endeavor to have the house dry towards evening, so long as frosty nights may be expected. If appearances indicate a sharp frost, and there is no other means of repelling it, filling the house with smoke will be found a good preventive expedient. Damp hay, or any similar matter, will answer this purpose; tobacco stems may be used, if there are, as frequently happens, nectarine or peach-trees trained on the back wall, as both the green and black aphid are very liable to attack them when the leaves are developing. Admit air carefully, exclude dry, blustering winds, and keep the bottom ventilators closed to avoid currents.

GREENHOUSE.—*Watering.*—The application, or, rather, the misapplication of water, kills more pot plants than anything else. It is also a subject that will not admit of definite rules, so much depends upon individual circumstances. When a plant is wet, it of course requires no water, yet many water all their plants every day. When a plant is dry, sufficient water should be given to reach every root, and wet all the soil; yet many are content by dribbling a little on the surface. Strong growing plants, and those that have filled their pots with roots, will require more water than those under the opposite extremes. Plants maturing their growth, or coming towards a state of rest, should have a gradually diminished supply, not, however, by curtailing the quantity at each application, but by lengthening the period between them. Merely wetting the surface only deceives the eye, as the lower roots get none. Again, delicate rooting plants, as azaleas, heaths, epacris, lescchenaultias, &c., especially if recently repotted, will frequently appear dry on the surface, although not in need of water. To ascertain accurately, give the side of the pot a sharp rap; if it produces a clear, ringing sound, it is a sure sign that there is not much moisture within.

Calceolarias and *cinerarias* are difficult to keep over summer. The best method is to plant them deep, in a rich, open soil, clear away a few of the lower leaves, and draw the soil well up about the stems; unless they emit a fresh supply of roots, and get hold of the soil before summer, they will do but poorly.

Pelargoniums will soon be in perfection. Keep them regularly supplied with water, and cut off the faded blooms. They will keep in flower for some weeks, if regularly attended to in these particulars.

Fuchsias.—Attend to repotting in time, that a speedy growth may receive no check, but do not give them very large pots, unless your object is a large plant and no flowers. They only bloom well when growth is completely checked by the pots being filled with roots; an eight inch pot will grow a specimen large enough for ordinary decorative purposes.

Achemenes require rough, turfy soil, and one-fourth of the pot filled with drainage. Strong growing sorts like *pedunculata*, *grandiflora*, *hirsuta*, &c., may be placed singly, or two or three in a pot; by constantly pinching out the young points, they may be grown very large, even from single roots, but they increase so rapidly by the roots, that plants are always abundant. *Longiflora*, *coccinea*, *rosea patens*, &c., may be planted thickly; they will thus soon form a large mass, and a succession of flowering plants may be had by keeping a few well pinched down. Syringe them frequently, and do not keep the soil too wet. *Gesneras* and *gloxinias* require similar treatment. The tuberous roots of the latter are apt to decay if the soil is kept wet before the fibry roots extend.

The house will now be much crowded. Plants intended for the flower garden may be set out of doors; so may, also, a few of the earliest flowered *camellias*, *acacias*, *azaleas*, together with *pittosporums*, *myrtles*, *oranges*, &c., that are intended for out-door decorations. Be guided, however, by the condition of their growth. They will certainly be checked, unless the young shoots have completed their growth. Choose a spot where they will be shaded from morning sun; a few degrees of frost will then do no harm.

During the month of February last, I was shown into a small conservatory, containing more bloom than I ever saw in similar space. The vigor and health of the plants attracted notice. I was informed, that a few days previous to my visit, through an accident, the thermometer got down to 22°, thus subjecting the plants to 10° of frost; shading was immediately resorted to, and the temperature allowed to rise gradually. Not a leaf or flower was harmed. *Cinerarias*, *geraniums*, *Kennedias*, *epacris*, *euphorbias*, *gesneras*, and even the *cypripediums*, *insigne*, and *venusta*, were all unhurt. This much for simply shading after frost.

Chinese primrose, for seeding, may now be allowed to flower; leave only one flower-stem on a plant; set them near the glass, where they will get air when the house is opened.

Climbing plants and rustic baskets, hanging about a greenhouse, create a pleasing variety. Baskets for this purpose are readily made with small branches of trees, or pieces of oak and hickory bark. Any plant that forms slender branches, or partakes of a spreading character, is suitable. Climbing plants are not at all adapted for this purpose. *Nemophilas*, *lobelia erinus*, *torenias*, *eschynanthus*, *hoya bella*, *mahernias*, *mimulas*, *petunias*, and *lophospermums*, if well pinched back when growing, *lantana sellowii*, and *lycopodium denticulatum*, are well suited for this method of culture.

Orchids.—There are but few who have special structures for the growth of this family. They are proverbially of easy culture, and many of them grow well under ordinary greenhouse treatment. Like other plants, they have a season of growth, and one of rest. While growing, they require a warm, humid atmosphere, and a dry and comparatively cool temperature when growth is completed. Were these simple facts kept in view, we should see them flower more profusely than when kept in continual growth, by maintaining a suffocating atmosphere, saturated with moisture as they are generally treated. We shall never see these curious plants come into general cultivation until the present mode of management is completely changed.

FLOWER GARDEN.—Plants intended for the borders should be “hardened off”—that is, accustomed to the weather for two weeks before planting out. The hardier kinds, as *verbenas*, should be planted early. If left until the end of May, as is usually the case, the warm, dry weather sets them to flower instead of growth; and, unless planted very thick at first, the ground will not be covered for months. A few degrees of frost will not harm them, and they will take to growth before overtaken by sultry weather.

Asters, *balsams*, and other annual flowering plants, may be sown in a frame, or a sheltered corner, in shallow drills, to be transplanted when of sufficient size.

Hollyhocks are very effective in masses, or singly, in shrubby borders. Procure seed of good varieties, and sow it at once; transplant in nursery rows when about a couple of inches high. The following season, they may be placed where wanted to flower.

Dahlia roots that have not commenced to grow, may be planted out towards the end of the month. They are increased by division of the roots, and cuttings root quickly if not kept too close and damp.

Violets should be divided and planted in rows, in rich soil. The tree violet is a useful kind; cuttings put in now, will form fine flowering plants for next winter.

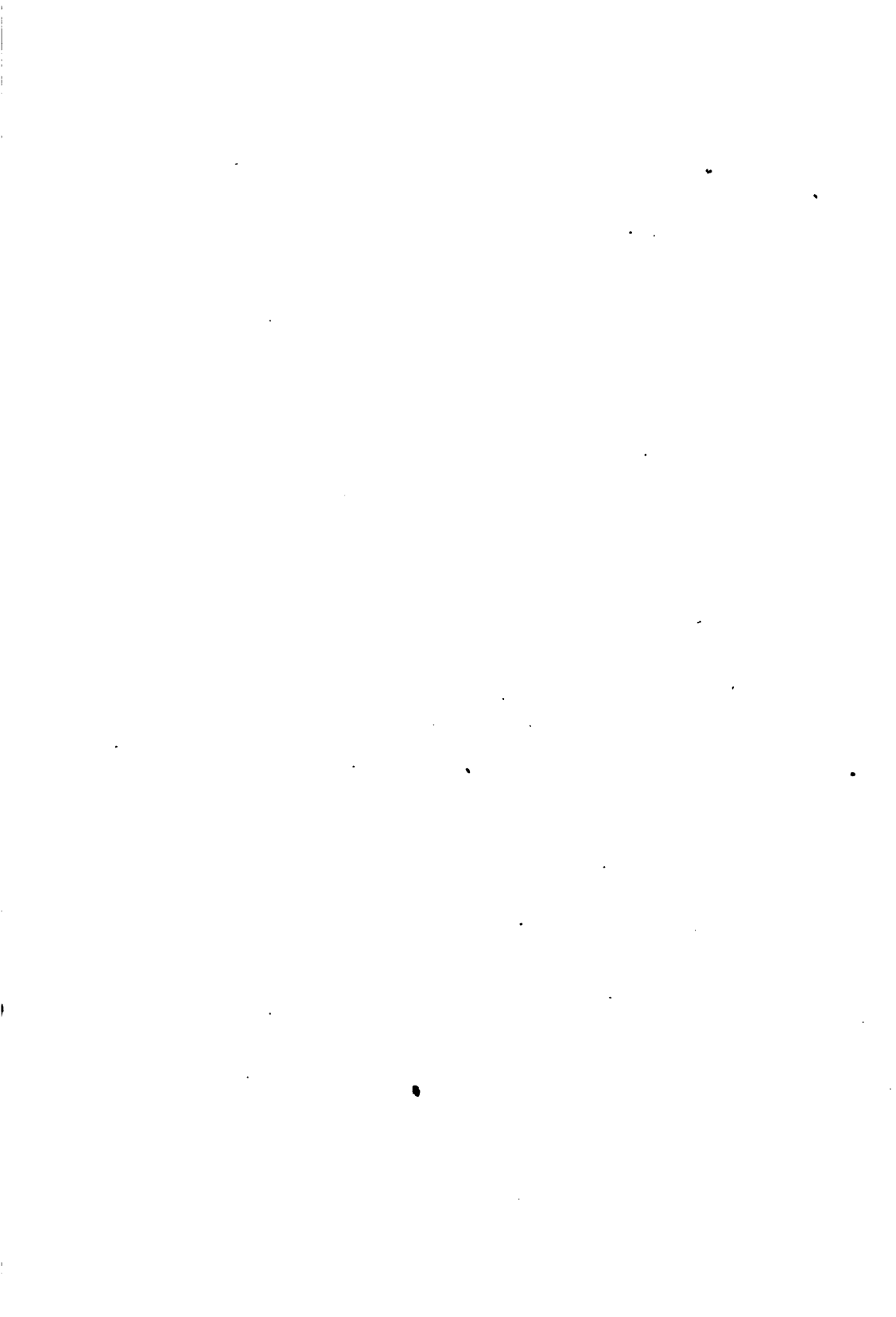
LAWNS.—When the soil is retentive and wet, the grasses are apt to be thrown out by the winter frost. A top dressing of surface soil, raked and rolled to an even surface, will impart fresh vigor to the roots. A great feature in keeping lawns is, to have them early and regularly cut. Especially should they be kept closely mown in the early part of the season, that the individual plants may spread, and form a thick surface, able to resist a dry season. There is no reason why we should not have good lawns, if properly laid down at first, and attended to afterwards.

PLEASURE GROUNDS.—In the arrangement of the grounds about country houses, a frequent cause of dissatisfaction is the want of connection between the building and surrounding scenery. A sloping lawn, running directly to the base of the house without any intervening object, always appears defective. In some cases, where the grounds are contracted, even a walk running parallel with, and surrounding at least the principal fronts of the house, will be found sufficient. But where a terrace can be introduced, although only of a few feet in width, it conveys a pleasing air of propriety to the dwelling; and, carrying art beyond the mere form of the house, its vertical and horizontal lines are blended by degrees with the accidental undulations of surface. It is not to be inferred that we recommend huge sod-banks to be raised on a level with the first floor, as may frequently be seen. Many fine buildings have their just architectural proportions completely marred by the quantity of earth piled round their base, looking as if half submerged. It is a wonder that architects do not pay more attention to this subject, and not only suit the style of architecture to the locality, but also provide for the necessary improvements being conducted without abridging its beauty of composition. Houses finished with heavy cornices, are much improved when surrounded with a broad platform, or esplanade, supported by a low wall, with balustrade on top; a proper position for the display of vases and other artificial objects. An extended terrace of this description on the private front, may embrace a small flower garden in the strictly geometrical style, which will be in good keeping with statuary, sun-dials, fountains, and other works of art.

The lateness of the season admonishes us to proceed, with all possible dispatch, with planting. Deciduous trees and shrubs should be attended to first; evergreens may be transplanted with perfect safety even after growth has commenced. The details of planting have been so often ably reverted to in these pages, that it is unnecessary to enlarge upon the subject here. The disposition of the trees with regard to individual or combined beauty, will also exercise the mind of the judicious planter. Trees of distinct character, as the weeping willow and Lombardy poplar, are said to be "dangerous in the hands of beginners;" yet, what a beautiful group they form when combined. Plantations of round-headed trees alone, appear heavy and tiresome; relieve them by a few larches, or deciduous cypress, and how changed the effect! the contrasts give animation to the scene. Again, what variety might be introduced by contrasting trees with reference to their changing colors in autumn, or even in their various shades of green during budding spring? No one who appreciates the beauty and adaptability of trees, will be deterred from planting this because it is common, or that, because it is ugly. Beauty and deformity are only relative appellations.

Evergreen and deciduous trees should not be indiscriminately mixed. For summer shade, the sugar, silver, and scarlet maples, ash, elm, &c., should be planted near the house; evergreens are valuable for shelter, but have a disagreeable effect in winter when placed *too near* the south side of buildings. A house nestling on the sunny side of an evergreen plantation, suggests comfort and cheerfulness; place too many evergreens in front, and the effect is cold and gloomy. Free growing kinds, as Norway spruce, white pine, and Scotch fir, are well adapted for planting where rapid growth and shelter are desired. Some of the finest spruce and rare pines may be planted singly. Placing them on mounds slightly elevated above the adjoining surface, increases and exhibits their beauty to the greatest advantage. The evergreen and deciduous plantings may be made to blend gradually into each other, by the skilful introduction of larches and deciduous cypress. These are deciduous, but partake of the conical outline of the majority of evergreens.

It may not be a useless repetition to remark, that every care should be given to guarding against the drying of the roots during the process of removal and planting; and that pruning of the branches should follow pruning of the roots—in other words, the branches require shortening back when there has been much mutilation of roots. Filling up the hole to allow for sinkage of the soil, securing the plants by stakes, and mulching over the surface, are points which will not be overlooked.





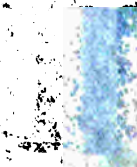
FUSCHIAS.

1. *Emperor Napoleon*
2. *Venus de Métil*

Chlorophyll *a* and *b* contents were determined by the method of Greaves *et al.* (1982).

Carrying out the idea at home, the following way
fig, which is still the graduated thermometer and
roots. It had the appearance of being quite a new
years before in a clay soil, in a hole about the size of a two
to its rootlets, beginning at a distance of some inches from the tree.
The rootlets were found making a vain effort to reach the tree which they
reached the previous autumn. Additional roots continued impetus
to the plant, which grew far beyond its companion figs, rarely increasing

10



A Few Words on Evergreens and other Matters.



CEDAR OF LEBANON.

IMPORTANT to the landscape, for shelter, and for winter and summer beauty, as evergreen trees and shrubs are, we never lose an opportunity of speaking a good word in their behalf, though we run the risk of repeating what has been said before. Their cultivation, in England, is a perfect passion, carried sometimes to a degree that appears almost unpardonable in a country where the land would seem to be required for food. The English climate is, undoubtedly, much better adapted for a *pinetum*, or collection of pines, than our own. Dropmore, not many miles from Windsor Castle, presents as fine examples of Evergreens as it is well possible to conceive.

Its proprietor, Lord Grenville, had a love for the subject, and procured the newer evergreens as soon as they were imported; his trees (and those at Elvaston Castle) present as large specimens of the new kinds as are to be found in cultivation; happily, his widow takes pride and pleasure in keeping them in condition. Most of them have space to develop their beauty, and a system of *feeding* the trees was early employed, that has been attended with most happy results. The operation is a very simple one, and may be practised by every body. Trenches are dug in radii that approach the body of the tree; beginning at a distance of forty or more feet from the body of a large specimen, a gutter, twelve to twenty-four inches in depth, is excavated, and the soil carted away; when the young rootlets at the extremities of the roots are reached, they are gently raised and imbedded in a composition of decayed leaves and virgin mould, that has been thoroughly prepared and mixed; or, if any particular description of food is known to be better adapted to a given kind of tree, it is of course employed. In these numerous radiated trenches the trees find their nourishment, and acquire a vigor and beauty that is a perfect regale to the eye.

Carrying out the idea at home, the following experiment was tried on a Norway fir, which is still the graduated thermometer to tell of the advantages of feeding roots. It had the appearance of being quite healthy, but had been planted two years before in a clay soil, in a hole about three feet wide. We had trenches dug to its rootlets, beginning at a distance of seven feet and a half only from the tree. The rootlets were found making a vain effort to penetrate the clay which they reached the previous autumn. Additional nourishment gave continued impetus to the plant, which grew far beyond its contemporary neighbors, rarely increasing

Spruce, unquestionably our most valuable conifers, the White Pine, and numerous others that have been tried, and which, on reference to the former pages of this work, will be found to have proved hardy as far north as Northern New York and Canada, would soon make up a list of sufficient variety to give the character of a pinetum, where the winter winds would only penetrate to utter those harp-like sounds that are so musical to the attuned ear. Shelter and beauty can thus be combined in any climate of our Union; at the South, by a greater variety; at the North and West, by greater numbers of the same kinds. But do not let us hear, as we did the other day, that "the planting of evergreens is a humbug," because one or two specimens that much was expected from had partially failed; they were planted in a most exposed situation, and, probably, without proper care; to have a good collection of evergreens, you must give attention to the wants of the plant in many ways; two of these are, shelter while they are young, suitable soil, and plenty of it.

It is a question not often mooted, whether evergreens do or do not require the same cutting back as deciduous trees, when removed. Our own experience indicates that a slight trimming is useful. The mode of operation on the Norway fir, for instance, is this: Cut back the limbs of last year's growth, using the dissolved shell-lac on cuts, and leaving the leader untouched. The effect is the same as that on deciduous trees, with this additional advantage: the plant throws out at least two—probably more—leading limbs, and the result is that of thickening the growth, and improving the appearance. For the sake of experiment, we carried this system to as great an extent, with a single specimen, as possible; ere many years elapsed, the limbs became so heavy with numerous branches, that they broke with their own weight. Others, cut back once in every three years, have attained rare beauty and a close habit.

One of the peculiarities attending a place newly planted, we have never seen noticed by any writer. A tree recently set out always looks as if it were *not at home*; it is not in keeping with its new position, or, rather, it has not yet appropriated the position to itself; hence, for the first few years of a new place, the planting has an unnatural look that is often the source of disappointment. In time, however, the trees put on a life-like garb, that appropriates the space as their own, and they seem to fit into their niches so naturally, that they are scarcely noticed by the careless observer; they are now at home, and part and parcel of the scenery. If the ground has been *thoroughly trenched*, you need not wait many years for good results.

The first year or two of the suburban residence, where all the trees are new, are thus not without their discouragements, and hence it is a good plan to procure a few specimens of greater size, even though they are not of the most valuable kinds, and to displace them one by one as better grow up. A few varieties bear removal with more success than others; the Horsechestnut is patient even under ill-treatment; the Silver Maple may be taken up without material injury; the Willow, if planted in made ground, or ground that is loose and moist,

will rapidly attain importance. Evergreens should be at once set out, as a year's delay is a year lost; the Austrian Pine, and the Pinaster, are among the most rapid growers, while the Cembran pine is extremely slow. Such information is obtainable from books, and no young planter should neglect their study.

It is a favorite plan with us, to intermingle the *utile* with the *dulce* in planting a new place. We can see no reason why many of our shade trees should be neglected because they also produce fruit. There is scarcely a more ornamental tree than the Spanish chestnut, and it yields a very profitable crop of excellent nuts; why not plant this instead of the commonest maples? A few fine cherry-trees of the most select kinds, serve the purposes of shade nearly as well as the most fashionable foreign deciduous trees, and they are an annual source of gratification, not only to the old and young, but they bring round the house the favorite robbin, and other singing birds. Reflect, while the latter enjoy themselves, that you planted the cherry to share its fruits with your friends. The Shell-bark hickory is one of the most beautiful American trees we possess; procure the true kind, and give a little space to what will long delight your successors. The Walnut is an extremely productive tree, and its timber is worth more than most others. The English walnut, or Madeira-nut, is also ornamental and useful. The Peach, the Apricot, and the Crab-Apple, interspersed in your grounds in suitable situations, are as picturesque as shrubbery, and, like the Filbert, yield valuable products; another argument for the use of these, is to be found in the fact, that when they are placed within sight of the mansion, they are more under the eye of the resident, and, consequently are less liable to depredations.

No country in the world is expending, on new rural improvements, more money than our own; it is of great importance that it should be laid out judiciously. Whatever may be the natural taste of the beginner who is capable of enjoying the happy efforts of others, he should be impressed with the fact, that many tasteful persons fail when they employ their energies in a new field of operations, precisely as they might do if they attempted a musical instrument without a master; they should consult some one whose business it is to lay out their grounds, whose experience has been exhibited by some example, and who can give correct information in such important points as what trees attain a great or a rapid height, and which must be waited for in patience. Accomplished individuals, in this department, are extremely rare; landscape gardening is a fine art, and, in all the fine arts, great masters are the exceptions.

One of the worst errors committed by citizens, when removing to "the country," is their congregating too near together in villages where the land is dear, the "lots" small and shallow, and where, as a taste for rural art increases, there is no space to expand. The citizen, accustomed to his small plot of 20 by 100 feet in town, conceives that 100 by 200 is a magnificent allowance. Many purchase even much less, and their country experiences end in disappointment; whereas, if they had gone but a little further from village streets, they would have possessed, at the same cost, ground for a good orchard and a cow pasture. Our own neighborhood

is an example of this. Germantown has been cut up, by interested speculators, into very small inclosures, where a few evergreens soon bid defiance to variety of shade and scenery; while the more thoughtful purchaser in the outskirts, has all that can make his residence desirable, but has, also, a building-lot or two to spare to a friend, at the cost of his whole original expenditure.* These remarks will apply to thousands who have left our great cities for purer air, and who have great reason to regret their want of foresight; the hint will not be lost, we trust, on future improvers.

On the other hand, do not undertake too much. Country, or even suburban life, is not less expensive than that of the city; to keep a set of assistants whom you must always overlook, and perhaps two sets, one *to go to town*, is onerous and costly. It is more difficult to be "content with simplicity," and those habits which do not engender expense, than most people imagine; and "living in the country," be assured, does not necessarily decrease the difficulty. The really happy country people are those who have graduated, as all sensible people should do, their expenses *within* their income; who have a fondness for country pursuits, a garden, fruit, shrubbery, and who can find congenial employment *when alone*.

FUCHSIAS,

EMPEROR NAPOLEON (BANKS), AND VENUS DE MEDICI (BANKS).†

E. BANKS, Esq., of Sholden Lodge, near Deal, has produced more really good Fuchsias than any other raiser. His Glory, Queen of Hanover, Elegans, Vanguard, Autocrat, and many others, even much older varieties, are universally grown. The late Mr. Story has done a great deal in the way of procuring NOVELTIES in Fuchsias, but he aimed chiefly at producing new characters, as in the white and striped corolla'd varieties. Mr. Banks sought more to obtain varieties excelling in form and of robust short-jointed habit, by means of carefully effected crosses. We need only point to Queen of Hanover for perfection in habit, and we much question if it is not still the finest white Fuchsia yet sent out. There never was a finer batch of Fuchsias let out than those sent out in the spring of 1854, of Mr. Banks's raising. There was Queen of Hanover, Clio, and Charmer, all light sorts; and Elegans, the gem of the dark ones still when well grown; Autocrat, with its large bold dark flowers of a distinct character; Vanguard, which wants a well reflexed sepal to make it perfect, and should be the parent of many for habit; and Omega, with its exquisite slate blue corolla. Since then,

* One of the sources of independence that has proved valuable to nurserymen, has been the rise in the value of their lands when they were near improving cities. We could designate many instances of this kind in various directions; it is common to see nursery stock advertised for sale, in consequence of the land having become valuable for building purposes.

† See Frontispiece.

Banks's Prince Albert, a good dark variety ; and Climax (Banks), a good habited kind, but wanting substance in the sepals. Others of Mr. Banks's raising reached us last year, but we failed in blooming them. The two varieties we now figure will be found acquisitions : Emperor Napoleon is a very fine dark variety, and Venus de Medici highly deserves a place in every collection. The exception is Wonderful, one of Mr. Banks's seedlings, we believe, and it is certainly a wonderfully large and coarse flower, with not a good quality to recommend it beyond size.—*London Florist*.

METHOD OF USING SULPHUR FOR MILDEW.

BY JOHN J. HOWE, BIRMINGHAM, CONN.

I HAVE a small cold grapery, in which the vines have passed their fourth season, and have borne two fair crops. One point in my experience may be worth communicating to the readers of the *Horticulturist*. It relates to the manner of using sulphur for the prevention of mildew. I have used it, in solution with quicklime, in the following manner : Take, say a half bushel of lime and 6 lbs. of flower of sulphur. Mix them together in a large tub (a half hogshead), and pour on enough water to slake the lime, and mix it to about the consistence of whitewash. After this is thoroughly mixed, fill your tub with water, and stir it, so as to diffuse the lime and sulphur through the water. Let it stand long enough to allow the lime to settle, and you will have a clear, transparent liquor strongly impregnated with sulphur, as will be manifest from its yellow color, and its strong, sulphurous taste and smell. My practice has been to have the ground in the interior of the grapery sprinkled with this liquor every evening through the season, as long as there is any danger of mildew. The tub may be filled up with water, from time to time, as the liquor is used, and the quantity of lime and sulphur mentioned, will be enough for a grapery 30 to 50 feet long, the entire season. In a few instances, I have used it diluted with about two parts of water to one of the liquor for syringing the vines—but I have seldom thought it necessary to use it otherwise than by sprinkling the ground as mentioned. My vines have never been attacked with mildew in the least degree—and I have never used sulphur otherwise than as above stated. There may be nothing new in the manner of using sulphur which I have adopted, but I have never seen its use recommended *precisely* in that way—and as I have found it entirely successful, and in no respect detrimental, I conclude that it has not been as generally practised as it deserves to be.

I have Black Hamburg Grapes now (March) as good as when taken from the vines—and good enough, too—which have been laid down in dry beech sawdust.



John Lindley

DR. JOHN LINDLEY.

FROM THE LONDON COTTAGE GARDENER.

VERY recently we recorded a living example of a country gardener's son deservedly elevated for his deeds of noble daring and honorable conduct, to be the associate and the admired of our country's nobility. It is noble and animating to see such examples of the gifted son of the poor man elevated upon the pinnacle to which he has buffeted his way—

"Rough'd to his point against the adverse stream;"

and we have this day to place before our readers another such example in Dr. John Lindley.

Dr. Lindley was born at Catton, near Norwich, where his father, Mr. George Lindley, for many years carried on the business of a nurseryman and seedsman; but, being unsuccessful in business, he ultimately became foreman to Messrs. Miller and Sweet, of Bristol Nursery, where, no doubt, many of our professional readers knew him personally. The early life of the subject of this notice was not distinguished by any remarkable occurrence. His rudimentary education being obtained in his native country, he was subsequently sent to France to prosecute the more advanced branches; and, on his return, in consequence of his father's reverses, he was early thrown upon his own resources. These resources were a well-stored mind, great self-reliance, and a ready perception of the art of rising. Soon after his return from the continent, he attracted the notice of Sir Joseph Banks, by being engaged in a controversy with Sir James Edward Smith, late President of the Linnean Society. Sir Joseph favored the opinion of Mr. Lindley, and appreciating the ability of the young controversialist, he took him under his patronage, and through his influence he was employed by the Horticultural Society, to whose "Transactions" his father has been a contributor.

The Horticultural Society having determined, much against the wishes of many of its fellows, to occupy an extensive garden, finally arranged in 1821, for that at Chiswick.

The Garden required for its care a resident staff, and as Assistant Secretary of the Garden we find, in 1822, Mr. Lindley was for the first time announced as an officer of the society. As holder of that office, he had to superintend the collection of plants, and other transactions in the Garden, besides keeping all accounts and minutes of reports addressed to the Society's Council.

Mr. Sabine retired from the Secretaryship, and was succeeded by Mr. Bentham, Mr. Lindley continuing his Assistant Secretary.

Mr. Lindley's connection with the Horticultural Society, sustained by his undoubted great acquirements as a Botanist, aided his rapid upward progress. The *Botanical Register*, established by Mr. Sydenham Edwards, in 1815, passed in 1826 to the editorship of Mr. Lindley, having previously been under the management of his friend Mr. Bellenden Ker. The sound knowledge he here exhibited, as well as in his *Rosarum Monographia*, and *Synopsis of the British Flora*, published in 1820, fully justified the University of London in placing him in the Chair of Botany, from which, as Professor, he delivered his Introductory Lecture at the close of April in 1829. In this he boldly made a stand in favor of the Natural System of Botany, and announced his intention of adopting it as the basis of his course of Instruction. Mr. Tegetmeier says, in a letter now before us: "I am a very old pupil of Dr. Lindley's. Twenty years ago I took his gold medal at University College, and maintained the superiority of his teaching by taking the silver botanical medal of the Apothecaries' Company, open to the competition of all the students in England. We have long been strangers; but I can truly say,

as a lecturer, he was one of the best teachers I ever heard. Free and conversational in his manner, his matter was excellent, and methodically arranged. I entered his class with little knowledge of, and less liking for, Botany, and left it with the results that I have mentioned, having amongst my competitors Dr. W. B. Carpenter, Dr. Lankester, Dr. Jenner, &c."

In 1832 Mr. Lindley procured from a German university the degree of "Doctor of Philosophy." From that time he was known as Dr. Lindley. In 1838 he became Vice-Secretary of the Horticultural Society—a post which he has ever since continued to hold.

We have little more to chronicle of Dr. Lindley beyond a list of his principal publications, in addition to those already noticed, and they deserve the general criticism that they are all excellent.

In 1833 he published his *Nixus plantarium* (Approximations of Plants), and in 1838, *Flora Medica*, and *Sertum Orchidaceum*, besides reporting upon the short-comings at *Kew Gardens*.

In 1839 appeared his *Ladies' Botany*, and *School Botany*, and in 1840, his *Theory of Horticulture*—decidedly one of the best efforts to illuminate and direct practice by science.*

In 1841 he published his *Elements of Botany*, and in conjunction with Mr. Paxton and Mr. Dilcke, founded the *Gardener's Chronicle*, over which he continues to preside as editor. The same year, also, he became Professor of Botany at the Royal Institution, and published, in conjunction with Mr. Hutton, *The Fossil Flora of Great Britain*.

In 1846 appeared his largest and valuable work, *The Vegetable Kingdom*.

We must here close our very imperfect notes, and will do so by expressing a hope that for many years to come our generation may benefit by the high botanical acquirements of Dr. Lindley.

THE WHITE GRAPE CURRANT.

BY P. BARRY, ROCHESTER, N. Y.

NEVER, in this country, has the cultivation of the currant received so much attention as it does at the present moment.

We have it upon reliable authority, that all the skill and industry of our nurserymen are unequal to the propagation of a stock sufficiently large to meet the demand, and that heavy importations are annually made from Europe, not of *new*

* [This important work has been very greatly enlarged, and a new edition has just appeared in London. The wood-cuts are nearly completed for an American edition, which has been placed under our editorial care. It will probably be published in 1857, in Philadelphia and New York.—Ed.]

varieties alone, but of the old sorts that have been the occupants of our gardens in some form or other for a hundred years or more.

This at first sight appears strange, but it can very readily be accounted for.

The population of this country has increased, of late years, at an amazing rate, and almost every man who is possessed of a piece of land, whether it be a small plot in the village, or a thousand acres in the far West, plants a few currant bushes.

Whether he plants other fruit trees or not, he is sure to plant currants. They thrive everywhere, and yield fruit under any sort of treatment. Above all, they bear soon, and this, especially in a *new* country destitute of fruits, is of no small importance.

In many parts of this country, *wine* is made from the currant to a very considerable extent. A gentleman in Wisconsin wrote us lately, that he had sold some to the druggists at \$4 per gallon, and could sell a large quantity at that price. He is about making an extensive plantation for this purpose, and he should do so if he can get \$4 per gallon for the wine, or even half that sum. The best currant wine we have ever tasted, indeed we may say the only sample deserving the name of wine, was made, last season, from the White Grape variety, the subject of this notice. It was made thus: to every gallon of clear drained juice was added two gallons of soft water, and 9 lbs. of extra refined loaf-sugar, making three gallons of wine. Nearly all the currant wine we have tasted, has been spoiled with alcohol being added in some form or other.

The currant is a fruit for the North, and we are perfectly satisfied that where the Grape cannot be grown for wine, the Currant may become an excellent substitute. This will apply to a very large tract of the Northern United States.

The introduction of improved varieties has given a great impetus to the culture of the Currant in the old States. The Cherry in size, the Victoria in lateness, are great acquisitions. The *White Grape* is by far the largest and finest *White Currant* in existence. The bush is lower and more spreading than the White Dutch, with much darker foliage, easily distinguished. There is much confusion among the White Currants; both in this country and in England, the White Grape and Dutch are confounded.

What we want above all things, in the Currant, is *size*, an important requisite in all the small fruits, on account of the expense of gathering.

We have said that the Currant yields fruit under any sort of treatment, and this is true, but no other fruit is more sensible of kindness, or less difficult to spoil by it. To have *large* crops, *large* bunches, and *large* fruit, we must manure highly, and give the shoots and branches a regular thinning and shortening in the autumn or winter of every year.

WEIGELA AMABILIS.

WRINKLE-LEAVED WEIGELA.

Nat. Ord. CAPEFOLIACEÆ—PENTANDRIA MONOGYNIA.

WEIGELA amabilis. "Planch. Fl. des Serres, v. 8, p. 855."

AT our Tab. 4396, under *Weigela rosea*, we expressed our doubts as to the propriety of separating *Weigela*, Lindley (*Calysphyrum*, Bunge), from *Diervilla*, with which Siebold and Zuccarini, and following them, Walpers, unite it; and doubting, too, as to *W. rosea* being distinct from *D. florida*, Sieb. et Zucc.; and, in reply to the query of a correspondent in the *Gardener's Chronicle* (vol. for 1853, p. 536), it is answered: "We are uncertain how many species of *Weigela* are known to botanists. In the garden we have *W. rosea* (just alluded to), *W. Minderdorfiana*, *W. amabilis*, and *W. lutea*; but the last is often an *alias* of *Diervilla lutea*, and we do not know how far the others are distinct. In books also occur *W. pauciflora* and *florida*; but the latter is very nearly, if not quite the same as *rosea*." We have now to consider the question of the distinctness of the one under consideration from the last mentioned. Certainly, with flowering species of each in our hand, the eye may readily distinguish between them; but, with the exception of the stronger reticulation of the leaves of the present plant, and the undulately crenate lobes of the corolla, there is no character on which reliance can be placed.



WEIGELA AMABILIS.

1. Calyx and pistil. 2. Corolla laid open. 3. Gland from the inner base of the tube of the corolla. 4. Transverse section of ovary—magnified.

Such as they are, we have included them in the specific character ; and we regret we have not the opportunity of consulting the *Flore des Serres*, where this species is established by M. Planchon. It is, we presume, like *W. rosea*, a native of China or Japan, but by whom introduced to Europe, we have no means of knowing.

DESCR. A shrub, probably equally hardy with *Weigela rosea* (though our plant blossomed in a cool frame in May), and with entirely the same habit : the younger branches and foliage are more or less hairy. *Leaves* opposite, larger than those of *W. rosea* ; rather obovate than ovate, acuminate, serrated, tapering below into a moderately long petiole. The surface is much and reticulately veined, with impressed lines above, prominent on the nerves beneath. *Flowers* sessile, or on very short, simple *petioles*, bearing two opposite, minute *bracts*, solitary in the axils of the upper leaves, or in a terminal, many-flowered *umbel*, of beautiful rose-colored *flowers*. *Calyx* hairy, the *tube* adherent with the ovary, so slender as to resemble a peduncle, angular : *limb* of five, erect, linear, appressed segments, unequal in height. *Corolla* with the *tube* narrow, scarcely longer than the segments of the *calyx* : the *limb* campanulate, cut into five, nearly equal, spreading, waved, and crenated, obtuse, broadly ovate lobes : the *tube* is, within, hairy, and has a clavate, short, downy, conspicuous *gland*, attached to the base on one side. *Stamens* inserted at the top of the tube, shorter than the limb : *anther* oblongo-sagittate. *Style* shorter than the corolla, included. *Stigma* two to three-lobed, lobes downy.—*Curtis's Bot. Magazine*.

[This plant flowers more than once during the season, and is a very decided acquisition, lately introduced, and now for sale in many nurseries.—ED.]

REMEDY FOR GIRDLED FRUIT TREES.

BY H. B. LUM, SANDUSKY, OHIO.

BELIEVING that a few words on the above subject will be of interest to those who may have suffered from the depredations of mice in their young orchards during the past severe winter, I make the following communication, knowing, however, that my theory of saving trees injured by mice, or from other causes, is well understood, at the present time, by many experienced cultivators ; yet the *modus operandi*, perhaps, may not be fully known by some of your readers whose young trees have been completely girdled by mice.

For the benefit of such persons, I will describe a plan adopted by me some years ago, for saving a girdled tree.

A friend, some time in April, expressed his regret at having lost the finest peach-tree in his garden ; a tree of three inches in diameter, which had been girdled for a space of six inches near the ground. I informed him that there was a possibility of saving the tree ; he furnished me with a small $\frac{1}{2}$ inch chisel, a piece of coarse cloth, and a stout cord. I then proceeded to make three half-inch grooves in the tree, equidistant from each other, and running from two inches above the girdled part to two inches below.

These grooves in the tree were made perfectly smooth, and the bark above and below the girdle injured as little as possible.

I then took a straight, thrifty shoot of the tree, split it through the centre, and shaved off each edge, so as to make it exactly fit the groove when of the right length, and fitted one into each of the grooves, using care to have the outer surface of the wood on the tree, and that on the piece inserted, to exactly match.

I now made a plaster of equal parts of cow manure and soil, spread it on the cloth, and then bound it round the tree with the cord; and, after banking the earth well up against it, left the rest to nature.

The result was a partial crop of fruit on the tree the same season, and a complete circulation of bark over the wounded part the year following. Other trees than the peach may be treated in the same way, and, when the job is nicely done, the sap will flow through the medium artificially supplied, until sufficient new organizable matter is pushed out from the sides to completely cover the wound.

DEUTZIA GRACILIS.

BY EDWARD DEEKER, STATEN ISLAND, NEW YORK.

THIS floricultural gem is worthy a place in every collection, large or small, throughout the length and breadth of the land, as few plants can boast of the grace and beauty of this, which must ere long become a great favorite with the fair sex, both on account of its own merit and their nice discrimination of the good and beautiful.

The plant is of the easiest possible culture; a mixture of leaf mould and good loam with a little sand will be found to suit this elegant little bijou; its increase is easy, either by layers or by cuttings of the half ripened wood under a hand glass, with a slight bottom heat to hasten their rooting. As soon as rooted, pot them off singly into $\frac{1}{2}$ pint pots and place them in a shady part of the greenhouse till they begin to grow, then place them in a cold frame to harden off, and as soon as they have filled the pots with roots, turn them out into a well selected piece of ground fully exposed to the sun, and by the fall they will have made nice little plants that will bloom the following spring. Take them up and repot according to the size and strength of the plants; they can then be stowed away under the -green-house stage, and treated precisely the same as Fuchsias; as soon as the weather permits, again turn them into the open ground, and by the end of the second summer's growth they will be respectable sized plants that will be covered with their snow-white flowers through the winter and spring months, by placing a few plants at a time into the early vinery forcing-house or even the warmed part of the green-house.

They may also be obtained early by those possessing no other glass than that of their dwelling-house windows, by placing them in a south window of a warm room, and giving air on every favorable occasion, that is, when the thermometer

is above 40° in the shade. As they produce their flowers on the previous year's growth, good care must be taken in pruning them to remove none but the old wood or ugly cross shoots that spoil the shape of the plant; a liberal supply of water is absolutely necessary for the full development of its long spikes of snowy flowers.

CLIMATOLOGY.

BY A CONSTANT READER. PHILADELPHIA.

THE contributions of this country towards the science of climatology and physical geography are matters of which we Americans may justly be proud. The *Espyan* theory of rain is the only one which possesses all the requisites of a law of nature. Lieutenant Maury's Charts of the winds and currents are of world wide fame. Professor Coffin, of Lafayette College, Pa., has contributed to the Smithsonian Institute, a memoir on the winds of the northern hemisphere, which is a fine specimen of laborious and philosophical investigation; and we have from the pen of Lorin Blodget, of Washington, two memoirs on the climate of the United States, which may rank with the best European reports on the subject of climate.

The first of these is contained in the Patent Office Report for 1853, and is a masterly discussion of the climatic conditions requisite for the successful cultivation of the great staples of our country—wheat, maize, the vine, tobacco, cotton and sugar.

The second is just published by the authority of government at Washington, in the large quarto volume entitled, "the Army Meteorological Register for twelve years, compiled from the observations made by the officers of the Medical Department of the army at the military posts of the United States."

These and other authorities have been most skilfully discussed and investigated, and their results are presented in a tabular shape, and in charts containing the regions of equal temperature and equal rains.

No country in the world possesses such facilities as our own for such an investigation. Extending over the whole breadth of the continent from east to west, and through 25 degrees of latitude in the southern portion of the temperate zone; the broad plains, the high table lands, the long ranges of mountain and coast, give us every variety of climate that can be found in our zone.

The following statements, compiled from the Hyetal or rain map of the U. S., will no doubt interest many of your readers.

The eastern half of the United States—that portion lying south of lat. 48° and east of a waving line, the mean direction of which passes through the meridian 95° west long.: a region as large as all Europe this side of Russia, and south of the Baltic—is the most equably and copiously watered portion of the world of equal extent and compactness.

The southern part of this region—comprising the States of Florida, Georgia,

South Carolina, Alabama, Mississippi, and Louisiana, and the greater portions of Arkansas, Tennessee, Kentucky, and North Carolina—forms a district in which fifty inches of rain fall in a year. In the southern part of Florida and along the coast from Pensacola to New Orleans, sixty inches fall annually.

On the rest of the Atlantic seaboard, and along a tract lying on the northern and western borders of the above, is the district of from 42 to 45 inches. The whole lake country has 30 inches, and the district of 35 inches of rain lies between the two last named.

When we compare this region with the western part of Europe, we perceive that its fall of rain is twice as great. Excepting the extreme western coasts, and the regions bordering on the Pyrenees, the Alps, and the Apennines, where 30 inches of rain fall—no part of the continent has more than 25 inches; the high plains of Germany have 20 inches, and the country east of a line passing through Berlin and Vienna has from 17 to 13 inches.

These numbers are the *means* of the observations of many years, and although the whole subject of climatology is so new that perfectly reliable means are not yet obtained in the majority of cases, they are sufficiently so to give confidence to the general results.

These rains are distributed throughout the seasons, with great uniformity. Along the seaboard they are almost equally divided among the four seasons. In Florida and the valley of the Lower Mississippi, the winter rains predominate. In the Upper Mississippi and the lake country, the summer rains are in excess, and the winter rains are light.

The greatest quantity of rain falls in the United States on the Pacific coast, north of lat. 40°, where it amounts to 60 inches. One-half of this falls in the winter months, and two-thirds of the remainder in the autumn. It never rains in California, nor in the western part of Utah in summer, and the summer rains are very light along the whole region of the United States west of the Rocky Mountains.

The high table lands at the base of the Rocky Mountains and the great interior basin of Utah are very scantily watered, and many parts of those regions are dreary deserts.

The distribution of temperature forms a very interesting portion of the Report, to which I will call your attention at another time.

Valuable as these observations are, they omit one element of climate of the greatest importance to the horticulturist. He wants to know not merely how much rain falls in his district, but what is the average moisture of the atmosphere. This can readily be learned from the wet-bulb thermometer, and ought always to be taken into the account in the description of climate.

It is understood that Lieut. Maury means to extend his researches over the interior of our country, as well as over the ocean. If he will include among the elements of climate—the dampness of the air as well as the fall of rain, we think he will find zealous co-operators among our intelligent horticulturists.

PEAR CULTURE—NO. 3.

BY DR. J. M. WARD.—NEWARK, N. J.

THE delay of this article on the comparative success of the pear on the quince and its own stock, is owing, it must frankly be acknowledged, more to the reluctance we have felt to approach the examination of this subject than to any other cause. We are well aware that in what we have to say, we shall oppose the honest views of many horticultural friends—amateurs, who have liberally fed and carefully nurtured their few pet dwarfs until the love they cherish for them is duly proportioned to the labor bestowed upon them; nurserymen and tree-growers, who, believing they were subserving the cause of horticulture, have indorsed by their name and influence the cultivation of the pear on quince, till their successful general culture in their own minds was placed beyond all question. But we must beg them to remember our disparaging remarks, if such they should be called, are the result of the observations of but a solitary individual, made simply in his own fruit orchards; and should the facts thus given not be corroborated by the testimony of others, they may be set down as anomalous experience, and if not satisfactorily accounted for from mode of culture, climate, or soil, according to the linguist's saying—"exceptio probat regulam," will serve to fortify their cherished opinions on this subject. To render our statements more satisfactory, we shall give the age, size, and height of trees, and in some cases their annual product, not simply trusting to our memories for these data, but appealing to our veritable fruit record, commenced with our first planting, ten years since, and faithfully continued to the present time.

In Darlington's Memorials of John Bartram will be found a letter bearing date Jan. 1763, from P. Collinson, London, to John Bartram, in which we note the following: "What I am persuaded will prevent the *pear* dropping its fruit, if some quinces were planted in the lower part of this garden *near the spring*, and graft them with the pear—it meliorates the fruit. By long experience, all our pears are grafted on quince stocks, and succeed better than on pear stocks with us." By which we infer in the moist climate of England, regard being had in planting to the habit of the quince, which delights in moist situations, and especially with their uniformity of climate, results may be obtained, which we are not warranted in looking for in our climate of dry summers with its scorching suns—and severely cold winters with its prevailing north west winds.

Although this mode of culture was thus flatteringly indorsed in England nearly a century ago, it does not seem to have taken that hold of the public mind that it has in our country. The lamented Downing, in 1845, said: "The dwarf pear, however, it must be confessed, rather belongs to the *small garden of the amateur*, than to the orchardist, or him who desires to have *regular large crops*, and long lived trees; it is usually short lived, seldom enduring more than a dozen years in bearing." And yet such we find has been the progress of the mania for dwarf trees, in

the popular mind, that now they are everywhere sought after. The amateur and the nurseryman have not only vied with each other in its praises, but multiplied their experiments in the flattering though vain hope, that our native pears universally declared *best*, would be improved by working on quince, till such a state of feeling has resulted as to make it difficult for a nurseryman to sell to the uninitiated anything but a dwarf tree. Good pears are talked of—the press chronicles their excellences—now and then a sight or a taste of one is enjoyed, and somehow or other the impression obtains that nothing but a dwarf tree, a veritable pear on a quince stock, will produce such fruit. The consequence is that our nurserymen are driven into the necessity of working upon quince everything that can be made to grow upon that stock—and the most refractory varieties by double working are thus made to grow—“whether they will or no.” This necessity seems laid upon them to fill their orders; for the charge is peremptory, “*Send none but dwarf trees.*” Pear-trees cannot be tolerated by the uninitiated; many will not accept them as a gift, for their grounds must be filled with dwarf trees. O Fashion—how inexorable art thou! Must thy *capricious, imperious* sway rule in this Eden world of horticulture, as thou art wont to do over thy votaries in the world of pleasure; if so, rest assured thy day of triumph here is short, for the period of reaction is not far distant; the signs of its speedy coming are even now visible. The disappointment at the result under the culture that *nineteenth* of them will receive, after they have taken their place in the extended garden or orchard, will, we fear, bring such an opprobrium upon the few that succeed so much better upon the quince than upon their native stock, and are really so improved in character as to demand their perpetual use, as to discredit even them.

In the spring of 1846 I planted 40 Bartlett's, on pear stocks one year from the bud. Of these, all live but such as have been lost from accident—have made vigorous growth, and are from 12 to 18 feet in height; their average product the past year was estimated at a bushel a piece. In the fall of 1849 I planted 10 Bartlett's on the quince. Most of them were suffered to bear one or two pears the first season; they occupy decidedly the richest part of the same field with those first planted, have been highly manured, and enjoyed as good culture as any trees on my farm; half of the number have died, are less than six feet in height; their united product the past season was less than a half-bushel, and this the largest yield they have ever given. I will venture the opinion from their present appearance, no one of those now living will enter its teens.

In 1849 I planted 10 Vicar of Winkfields on quince in an adjoining row to the Bartlett's; for four years they made satisfactory growth, and yielded good crops in view of their age and size, since which time most of them have declined in health and vigor—two have died—two others give indications of premature death. Forty other Vicars on quince were planted at the same time on a distant part of the same field, have made most wonderful growth, and have borne more or less every year,* and from the rapid development of the wood principle, give promise of long lives of usefulness and profit.

* The average height from 12 to 15 feet.

In the same year I planted twenty Louise Bonne of Jersey on quince, all of which are, as to thriftiness of growth, symmetry of proportion, healthfulness of aspect, and productiveness of habit, all that could be desired. These stand contiguous to the failing Bartletts on quince—indeed all the above are on the same plat of ground, and the physical condition of the soil, as far as the eye can judge of it, being similar.

In 1851 I planted twenty Louise Bonne on quince on another field. Great care was taken in the preparation of the soil; all the requisite conditions were secured in planting, for producing healthy, rapid growing trees, and yet to this day their truly dwarf appearance is everything else but an object of attraction to a lover of trees; have not borne in the aggregate a peck of fruit, while those planted two years previously on another field, have yielded over a half bushel a piece. Some have died—others are in the process—and all might, without regret at their loss. The cause is involved in mystery, unless it is to be found in the fact that the *subsoil* is a gravelly *loam and shale*, not as congenial to the quince as the more retentive clay substratum. One hundred Bartletts on the pear stock planted at the same time, occupy an adjoining row, and are making most satisfactory progress in the world, as well as doing the work for which they were planted.

Contiguous to these Bartletts are two rows of Onondagas, one on the quince, and one on the pear stock; those on the native stock are vigorous growing trees, forming fine heads, and commencing to bear fruit, while those on the quince are small, stunted stocks, irregular in their growth, and have borne but here and there a solitary pear. All the above described trees were obtained from the late James Wilson, of Albany, and have enjoyed the same culture with the previously named one hundred Duchess D'Angouleme on quince obtained from Wm. Reid, of Elizabethtown, which in their thrift and productiveness have far exceeded all expectation. The better to elucidate the subject, the reader will excuse us for referring to some comments in a late number of the *Country Gentleman*, on a previous article, in which it is supposed I committed an error of cultivation, in giving to both trees, those on pear and quince, equal culture. My answer to the esteemed reviewer is, that the data given him does not warrant the conclusion to which he very naturally arrived. It is true, I found my soil "emphatically a worn out one." But liberal draughts have been made upon a neighboring *slaughter house yard*, from which some hundreds of loads of the richest nitrogenized manure have been obtained, of which, and other appropriate manure previously described, the dwarf trees have annually had a liberal quantity forked in before mulching, which, together with the detritus of the mulch, may be considered fair treatment of the dwarf trees. If this is better treatment than the pear stocks are in the habit of receiving, an error in this direction should not be used as an argument to the disparagement of the dwarf. No! the failures above described of some varieties, that ordinarily do well on the quince, and that in other portions on my own farm have succeeded to admiration, we shall be able, we think, satisfactorily to account for, and will constitute some of our objections against the general intro-

duction of the quince stock, except in the small garden of the amateur. These objections, together with a consideration of what kinds are decidedly valuable and enduring on quince, and which the most, and which the least so, and other thoughts germane to the topic, will be the subject of the next article, unless in your judgment, Mr. Editor, what has already been written in the examination of this subject is so much in advance of public sentiment, as to wake up more of a storm of opposition, than should rest, even by implication, upon the shoulders of the *Horticulturist*.

[On the contrary, the *Horticulturist* professes to be a seeker after truth. If the country has gone far enough, or too far in introducing the dwarf pear, it is time we knew it. The Pomological Society of New York, in their report, agree in the main with Dr. Ward—the pear stock for the orchard—the dwarf for the smaller garden.—ED.]

NOTES ON PEARS.

BY J. K. ESHLEMAN, CHESTER CO., PA.

As your very able contributors are giving us important instructions "When and how to Plant," on "Planting and Pruning," and on "Cultivation," may we not hope, in due time, to hear what to plant?

My mite of experience, if worthy the place, may be added to the common stock. If such valuable information as is contained in the articles above alluded to, and in numerous publications now before the public, had been easily accessible years earlier, what an amount of labor and mortification might have been spared. But the *products* of ten years, without these to guide, have not been too dearly bought.

The intention, at the outset, was to give a list, selected from one hundred varieties fruited here, of "VERY GOOD" pears. Most of these have fruited here twice, thrice, or oftener, in sufficient quantity to test tolerably fairly.

Every amateur will desire to possess that beautiful, *very early, small* variety, Doyenné d'Été, and also Madeleine, neither of which can enter my list of "very good." Both will probably be superseded by Beurré Giffard.

But to my list, given in the order of ripening: Bloodgood, Dearborn's, Elizabeth (Man), Washington, Ott, Rostiezer, Hanna's, Henkel, Fondante de Malines, Chancellor, Fulton; Cämerling, Urbaniste, Kingessing, Buffum, Liberale, Capiaumont, Flemish Beauty—recently imported under the euphonious cognomen Gagné à Heuse, Lawrence, Winter Nelis, Bleeker's Meadow, Passe Colmar, and Glout Morceau.

The list of "Best" is easily added: Tyson, Bartlett, St. Ghislain, and Seckel. Almost worthy admission to this last list, are Washington, Ott, and Fondante de Malines.

Notwithstanding its position, if I were fruiting one hundred trees for profit, three-fourths should be of Lawrence.

Downingtown, Chester Co., Pa., March 10.

NOTES ON THE CULTIVATION OF THE APRICOT.

BY WILLIAM TOMPKINS, GERMANTOWN, NEW YORK.

A MODERN writer says: "It is remarkable that a fruit of so much excellence as the Apricot, ripening before the best early peaches, should be so little known, commanding as it does the highest price in the market." Inasmuch as I have been quite successful in the cultivation of this fruit, and am willing to add my mite of practical experience for the general good, I propose to say a few words on this subject for the benefit of those persons who have failed in its culture, and those, also, who are afraid to try, on account of its great enemy, the Curculio. I will first state that I am located on the east bank of the Hudson River, twelve miles below the city of Hudson. The soil on the ridges is a strong loam, with a clay subsoil, containing a very great percentage of lime. This is the favorite soil of the Apricot; the trees grow moderately fast, and make a good, firm growth of wood, that generally stands our cold winters well. Owing to the heavy texture of the soil, the circulation or flow of the sap is not so easily excited by the effects of warm spells of weather, which we generally have during the fall and winter months, consequently the fruit buds remain dormant during these trying spells until the proper time of starting arrives. This, in my opinion, is the reason the fruit buds of the Peach and Apricot are so seldom winter-killed in this locality. The most trying time for the Apricot, with us, is when in full bloom; at that period we frequently have cold, windy weather, and sometimes frost. On referring to my journal, I find the following entries: April 16, 1854, commenced snowing very fast; wind, northwest; snow fell a foot deep; fruit buds of the Apricot just ready to burst. May 7. Apricots in full bloom; cold north wind; made ice, at night, $\frac{3}{4}$ ths of an inch in exposed places. Notwithstanding the cold and frosty weather of the 7th of May, all Apricot-trees in sheltered places had a pretty good crop of fruit. Last season (1855), they produced an abundant crop, especially where they stood somewhat sheltered, setting twice as much fruit as they could with safety mature. When the fruit was half-grown, I picked about two bushels off, scarcely any of them showing the mark of the Curculio; as the fruit advanced towards maturity, it was quite evident there was not half enough taken off yet. However, there was no more taken off the trees till the fruit got ripe, but if I had taken twice the amount off, in a green state, that I before mentioned, the crop would have sold for more. The crop during the past season has not only been gratifying to my pride as a fruit-grower, but has proved eminently profitable considering the labor bestowed. From 25 trees, part nine years planted, and the balance planted within the last four years, there were taken 12 bushels of this delightful midsummer fruit, which sold, in the New York market, at prices ranging from \$5 to \$10 per bushel, the most of them for the latter price. At the time I bought the farm where I now reside, there was an old Apricot-tree on an adjoining farm which was then 30 years old; it was about eight inches in diameter, and 14 feet in height, with a fine, low, spreading head; this tree stood near the south

side of the dwelling-house, in a strong, loamy soil, and annually produced for its owner from one to four bushels of handsome fruit. This Apricot ripens at the usual season, is of medium size, and possesses the remarkable quality of coloring up to a handsome straw color some days before it is soft, with here and there a dash of red on exposed specimens; stone small, and nearly free, and not perforate; never cracks or rusts, as do some of the older sorts. Hardest of all the Apricots that I am acquainted with, the bark of the tree seldom cracks or gums, unless planted in a damp soil, and in such soil should not be planted, unless well under-drained. This variety is supposed to have originated here, as it is quite different in appearance and habits from any of the other sorts that I have fruited (and I fruited quite a number). My largest and most productive trees are of this sort. One tree, 9 years planted, standing within seven feet of a building, has produced heavy crops for the last four years; there was, in 1853, one bushel taken from it; in 1854, not quite so much; 1855, one bushel and a quarter. To the nature of the soil, and nothing else, do I attribute the immunity of the Apricot from the ravages of the curculio in this locality; in fact, I consider his labor rather serviceable than otherwise.

In conclusion, I will say, brother fruit-growers, if you have tried to grow this truly golden fruit, and have been disappointed, "try again" is the motto. Some writers say: "Don't plant in warm situations, as on the warm side of a building, or other sheltered site facing the hot sun." This advice may be proper in some places, but it certainly is not here. If your soil is warm and sandy where you wish to plant, dig large holes, and put in a cart load of clay, or other heavy soil, in each hole before planting; then with a wheelbarrow load of good soil, and a few shovelfuls of compost, plant your tree, and, my word for it, you may expect to get some good fruit the third year after planting. The large amount of heavy soil in which the tree stands will not only make a bad harbor for the curculio, but will retard the season of blossoming, which is always desirable. The Apricot should, in all cases, be worked on the plum or almond stock (and be annually shortened in); if worked on the peach, it is generally short lived, and liable to all the diseases to which the peach is incident. By all means, plant in sheltered places if possible, for it is well known that a cold north wind is very destructive to this fruit, when it is in full bloom. A tight board fence, 7 or 8 feet high, affords very good shelter for the Apricot and Grape, &c. I made about 80 rods, last fall, in the following manner: A ditch, three feet deep, running east and west, was dug, the land inclining gently towards the east; posts, 10 feet in length, were then put in so as not to obstruct water (the ground being damp, but not wet); the ditch was then made half full of small stones, and filled up with surface soil; string pieces were then put on horizontally, and boards firmly and closely nailed on in a vertical position. A fence of this sort not only drains the land, but breaks off the north wind, and softens the atmosphere for many a rod on the sun side. Apricot-trees can be planted on the sun side within three feet of the fence; they should be cut back for two or three years, so as to form compact and low headed trees.

[We are much pleased with this article, and gratified to record such success with a fruit that baffles the most experienced. And yet there are instances, in our own neighborhood, which have had sufficient influence with us to induce planting more Apricot-trees every year; so far, our results have been half a dozen good sized fruits per annum. In the garden of J. Francis Fisher, Esq., there are, or were, lately, two specimens of the size of large apple-trees; they produced, annually, *many bushels* of perfect Apricots that were untouched by the curculio, and yet received no cultivation whatever. If the suggestions of our correspondent are carried out, we may yet hope.—ED.]

CRITIQUE ON THE MARCH HORTICULTURIST.

Illinois and the Prairies.—"A wonderful country" is Illinois, and the States which lie around it—incomprehensible, too, to those who have never seen the broad territory they cover. Great efforts are making by the earnest men therein, to develop the untold wealth which lies buried in their soils. Vast are the prairies, too, and all the worse that they are so. A sprinkling of "rocks, trees, and running brooks" over their vast surfaces would make them abundantly richer in the elements of agricultural life, and save—oh, how much of man's brief time, weary labor, and anxious solicitude in planting trees, and pumping water! Doctor Kennicott's *Transactions* is a commendable work, highly creditable to his own industry and research, and full of promise to the future usefulness of the Illinois State Society, and as your remarks, Mr. Editor, express all I have to say on *that* subject, I have a word or two for the managers of that useful institution. I learn that they have heretofore pursued a quite mistaken policy, in docking the pay of their *working* secretaries—the very men, in fact, to whose *brain* labor they are chiefly indebted for the good show they make in the getting up of these valuable *Transactions*.

Now, gentlemen managers, this won't do. If you mean to have a society useful to the people, and creditable to the agriculture of your State, you must have an office at your seat of government for the depository of its papers, documents, library, and *Transactions*, with a living, thinking, writing, talking *man* inside of it—call him secretary, or what you like—as the New Yorkers do at Albany, to attend to its business, and communicate with the farmers of your State on all subjects appertaining to their agricultural advancement. And beyond this, you must pay him a salary sufficient to compensate his time and labor. *Brains* are not in the habit of working for nothing, unless there is a *soft* spot in them. In that office should be the annual and other meetings of your society—the general agricultural head-quarters of the State. Your great, big State cattle shows are all very well, but they should be only an incident, or high holiday of the year, showing the results of your annual progress. Illinois is purely an agricultural State, wide in territory, and probably, the fourth in population and agricultural

wealth in the Union ; and with agriculture its leading interest, why pursue a narrow, picayune policy in its development ? No ; that is not the way. If the funds of the society are not sufficient, compel, as you can do, your Legislature to give you the means. This saving at the spigot, and losing at the bung, is no way to perfection in agriculture. Try the thing, and my word for it, you will find it pay.

Planting and Pruning.—A most complete and conclusive article from the pen of an accomplished master. It needs not a word of comment, only to urge its diligent reading upon every tree planter once a month throughout the entire planting, pruning, and growing seasons. I hope we shall have further lessons from so instructive a teacher.

The Apple Scale, or Bark Louse.—It seems to be the destiny of us poor mortals who are sent into this troublesome world to work out our own salvation, or something worse, to find every blessing with which we are surrounded in the way of vegetable or animal life followed up by some destructive enemy, in the way of disease, or living creature of prey, to cut it down before we can enjoy its benefits. Were it not for the labor of counteracting these scourges, the great command, "In the sweat of thy brow shalt thou eat bread," would be shorn of half its bitterness. We are told by the naturalists who use the solar microscope, that even fleas get lousy ! No wonder then that cattle, *some sorts* of humanity, and even our trees are thus affected. We are indebted to Mr. Hanford, and all others who can assist us in extirpating these marauders into the peace and quietude of our gardens and orchards. Thorough scraping, and soapsuds, or lye washing, with *good culture*, are the best methods I have tried. It is a pottering job, and I hate it, but it *must be done*, or the trees will suffer.

Ornamental Iron Work.—I like these specimens, for they don't require much paint, and they never rot. With stone foundations, bedded in the ground below frost, and the posts well drilled and leaded into them, *they stand forever*—that is, as long as our human forevers are likely to want them.

The Pea-Bug and its Allies.—Yes ; the "allies," with the "bug," are quite as fatal to the pea as allies of another kind, with the Turks, are to the Crimea—a "pea" of another sort ; but which they, "the enemy," are equally ready to appropriate, as we are the less important vegetable. I'll file away this *cure* in the same pigeon-hole with the bark louse.

Our Native Wines.—In the simplicity of my younger housekeeping days, I used to drink wine, for years, as a daily beverage at the dinner table. But when I found that, added to the folly of imitating a senseless fashion, it did me no good, and more, that the bulk of the foreign wines in this country were a vile compound of drugs, alcohol, and the cast-off washings of European wine-presses, I let them alone ; yet, I do not embargo the tastes or the appetites of those who choose to indulge "temperately" in the use of a health-promoting, or life-enjoying stimulant—if such a thing exists. The "native" wine interest is getting to be a leading one in the neighborhood of Cincinnati, and if men will use it, I commend

the *home* article over the foreign, by all means. I shall not tilt an argument with Mr. Buchanan on the *fact* that native wines will *do more* to promote temperance than the "Maine Law;" but only say, that I have seen men rise—or *try* to rise—from the dinner table, as well as from various other sittings, quite as "glorious" as Tam O'Shanter when hob-a-nobbing over their ale with his "drouthy crony," Souter Johnny, and that, too, from their free libations of "native" wine, bottled at Cincinnati—the "pure, sparkling" article itself!

Good and Bad Pruning.—This, with your capital illustration of the two methods, is so conclusive, that anybody with a thimbleful of brains can understand it better than if I should comment a whole chapter upon it.

Sweet Apples.—Long ago, when a youngster, I was dilating to an excellent housekeeping lady friend, on the extraordinary virtues of baked sweet apples in boy's bread and milk; and in addition to that, how good the raw ones to fat pigs, and geese. "Yes;" she replied, "and they are just as good to fat children, and grown people on as pigs!" I have believed it ever since.

Notes on Pears.—Next year Mr. Eaton can probably tell a very different story about the growth and flavor of many of these same pears. The variety, soil, cultivation, climate, and season must determine what, in the way of pears, the grower of them had best cultivate. I have attended sundry consultations of the savans on this subject, and am still in doubt, beyond half a dozen standard varieties.

The Lowell Wire Fencing.—Too low in height, too expensive for farming, and too frail for *street* fencing in the towns. Within the *outer* inclosure, they are sufficient, and quite ornamental. For economy, and good appearance, in *that* way, and for screens to run vines and climbing plants upon, I hope they will be adopted.

JEFFREYS.

WHICH ARE THE BEST ROSES?

BY ROBERT BUIST, PHILADELPHIA.

MR. EDITOR: The above question is very frequently proposed, and is much more concise than any reply that can be given. We would say that there are none supremely beautiful, if they are not abundantly supplied with free soil, and well incorporated with very rich material, such as decayed leaves, old, decayed manure from the piggery or barnyard; or, where there is a deficiency of these, rich water, twice a week, must be applied. "What is rich water?" There arises another question. If you will not consider me too tedious, I will give you in detail how it is manufactured. I have a half cask, containing about 80 gallons of water, into which I put 6 lbs. of guano, half a bushel of horse droppings, or a peck of chicken manure; either of these, just as convenience suggests. I allow the portion selected to remain in the tub 24 hours, when it is stirred up, and from which I give my select plants a copious watering twice a week from May till the middle of June. The soil round the plants must be frequently stirred, and kept

clean, and properly cared for, neatly tied up, and, when in bloom, shaded from severe sunshine. Such is the treatment bestowed upon the finer and rarer sorts.

We are confident that there are 700 varieties cultivated in the United States, and we are also confident that 100 would embrace every color and character among them, placing entirely in the shade many of the so-called new sorts. Permit me to hand you for publication a few from each section of the perpetual or semiperpetual blooming varieties. You will see that I have not placed the eulogized Augusta amongst them, considering it only the selfsame, or a reproduction of that variety; this conclusion is arrived at after having had it three times from the firm that sent it forth as the finest rose in the world.

REMONTANT, OR HYBRID PERPETUAL ROSES.

Auguste Mie; a fine, glossy pink; a new and exquisite rose, of perfect form.

Baron Prevost; bright rose, large size; strong growth.

Baron Halley; reddish purple; very perfect; globe shape.

Geant des Batailles; brilliant scarlet crimson; an abundant bloomer—all qualities good.

Jules Margottin; bright crimson; a companion to the former; a new and magnificent rose.

Lion of Combats; crimson purple; large, compact form; very fragrant.

Louise Peyronny; bright pink; finer than La Reine.

Marquis Boccella; the most abundant bloomer; of a light blush color.

Madam Fremion; bright carmine; fine form.

Madam Rivers; pale silver blush; very perfect cup shape.

Queen Victoria; very large; blush white, tinted with pink; a magnificent flower.

Pius the 9th; deep purple crimson; a strong grower and profuse bloomer.

Wm. Griffiths; rosy lilac; very large; cup form; quite distinct; a noble flower.

THE, OR TEA SCENTED ROSES.

Adam; flesh color; very large; cup form.

Devoniensis; lemon white, tinted with pink; very fragrant; often called the Magnolia Rose.

Gloire de Dijon; very large; buff color; quite new; was sent out as a fine yellow; because every person wants a yellow monthly rose.

Goubault; bright rose, tinted with blush; very fine.

Julie Mansais; lemon white, with yellow centre.

Laurette; salmon, tinted with rose; large and fine; quite new.

Madame Bravey; pure white; a good grower, and fine bloomer.

Safrano; buds, before being fully opened, are of the most beautiful apricot color; very desirable.

Souvenir d'un Amie; rosy pink; very large, handsome form, and one of the grandest of roses.

Vicomtesse de Cazes; yellow, with deeper centre; a very delicate grower.

Willermoz; creamy white, with salmon centre; a new and beautiful rose.

NOISETTE ROSES.

Amie Vibert; pure white; a very delicate grower.

Cloth of Gold; pale straw color, with yellow centre; a noble rose, of exquisite odor, and strong growth.

Fellenberg; red, changing, in the autumn, to bright crimson; very profuse.

Isabella Gray; BRIGHT YELLOW; very highly scented; a new rose, from the "sunny South."

Jaune des prez; yellow and buff, tinted with rose; of spicy fragrance and free growth.

Lamarque; lemon white; very large and splendid.

Ophirie; salmon and orange; a vigorous grower, with fine, dark-green, glossy foliage.

Octavie; bright red; a rare variety.

Phillipart; peach blossom color; small flower, in large clusters; a strong and hardy rose.

Triumph de la Duchere; pale rose, blooming in large clusters; very profuse.

BENGAL, OR DAILY ROSES.

Arch Duc Charles; large; rose changing to crimson.

Agrippina; perfect globular shape; brilliant crimson.

Cels; blush, pink centre; a very profuse bloomer.

Jacques Plantier; shaded rosy crimson.

Lady Warrender; pure white.

Louis Philippe; globular; crimson, with paler centre.

Lucullus; vivid dark crimson.

Madame Breon; bright, waxy rose, large and fine; a very strong grower.

President d'Olbecque; cherry-red; fine form; very profuse.

BOURBON ROSES.

Acidalie; the only rose that is nearly white amongst the Bourbons.

Apolline; pink; surpasses the Hermosa in form and clearness of color.

Bouquet de Flore; bright rosy carmine; a very strong grower.

Henry Clay; bright carmine; very large flower, though not a perfect form.

Louise Odier; bright rose; beautiful cup shape.

Queen; fawn color; a profuse bloomer, but not a very free grower.

Sir Jos. Paxton; very bright rose; strong growth; as yet, very rare.

Souvenir d'Anseleme; bright red; a strong grower.

Souvenir de Malmaison; pale blush; the largest and finest of this group.

Vorace; deep purple crimson.

[Mr. Buist is "authority" on the Rose; his communication is timely and to the point. The late winter has been so severe upon most roses that a new stock will be required in many gardens, and fortunate will be those who can procure the novelties here noted. The amateur will not neglect the CRESTED MOSS.—ED.]

A THIRD WINTER ON THE NEW EVERGREENS.

BY HENRY WINTHROP SARGENT, WODENETHE, FISHKILL LANDING, DUTCHESS CO., NEW YORK.

I HAVE, upon two previous occasions, through the pages of the *Horticulturist*, given my experience of the effect of our winter upon the new evergreens, and have recently had so many applications for information as to the influence of the present winter upon this class of trees, that, to save myself some trouble, I propose, with your consent, to answer these questions through your valuable journal.

It is, I presume, unnecessary to remind your readers what sort of a winter we have had, both as to the degree of cold, and the extent and continuance of snow—but the many are not, perhaps, aware that, from this very circumstance, all low plants within 12 or 15 inches of the surface of the ground, have wintered better than any previous year of my experience; and, as all the newer and rarer Evergreens belong *so far* to this low order, they have come out through the snow wonderfully green and bright, especially when side by side. We see white pines, hemlocks, and even our common roadside cedars, scorched the color of brick-dust. The winter has been favorable in two respects; in the first place, an even temperature, without much frost, has been preserved through the covering of snow about the roots and the neck of the trees; and the cold, though severe, has been uniform. I will conclude these remarks by simply observing, that in my neighborhood, all Evergreens, from the rarest to the commonest, are (above the snow) of a color varying from that of gingerbread to that of a dull brick. I do not perceive that Deodar cedars, and cedars of Lebanon, are more browned than hemlocks and white cedars, and the buds on all are uninjured. There is, upon my place, one remarkable exception to this universal *browning*. The *cryptomerias*—which have been entirely uncovered all winter, are not injured; in previous years, they have been well protected, and I usually lose them. May it be that this plant is an exception to the advantage usually gained in protecting half-hardy plants?

Pinus.—*Hartwegii*, destroyed.—*Insignii*, abandoned as an impossibility with me.—*Laricio*, untouched.—*Lambertiana*, brown above; green below the snow.—*Macrocampa*, brown above; green below the snow; buds good.—*Montezuma*, brown above; green below the snow; buds good.—*Ponderosa*, untouched. I think this more hardy than our white pine.—*Sylvestris*, uninjured.—*Austriaca*, uninjured.—*Pinaster*, buds good; foliage changed.—*Gerardiana*, green, but protected all winter by snow.—*Maritima*, untouched.—*Excelsa*, untouched; superb tree.—*Cembra*, untouched. Of these 14 varieties, I think I can grow all except the first two.

Abies.—*Alba*, hardy.—*Argentea*, hardy.—*Brunoniana*, abandoned.—*Canadensis*, hardy.—*Clanbrasilensis*, hardy.—*Douglasii*, brown, but buds good.—*Excelsa*, hardy.—*Lezeensis*, leader gone; green below snow.—*Hudsonii*, below snow, uninjured.—*Morinda*, little browned.—*Menziesii*, little browned.—*Pygmaea*, hardy, I think, but entirely under the snow.—*Pichta*, perfectly untouched.—*Pichta Pendula*, browned. I do not know whether this is Smith's *Pendula* or not.—*Pinsapo*, untouched.—*Orientalis*, brown above, green below the snow.—*Cephalonica*, untouched. Of these 17 *Abies*, I think the *Brunoniana* the only one I cannot grow.

Picea.—*Pectinata*, hardy.—*Fraseri*, hardy.—*Webbiaia*, hardy; apt to lose its leader.—*Pinetrow*, hardy.—*Normandiana*, hardy, and beautiful.—*Nobilis*, perfectly green.

Juniperus.—*Virginiana variegata*, hardy.—*Sabina*, hardy.—*Sabina argentea*, hardy.—*Sabina aurea*, hardy.—*Tamariscifolia*, hardy.—*Thurifera*, hardy.—*Pendula*, hardy; beautiful.—*Excelsa*, hardy.—*Hibernica*, hardy.—*Squammata*, hardy.—*Recurva*, hardy.—*Chinensis*, hardy.

CUPRESSUS.—*Foliis variegatis*, hardy.—*Funebris*, brown above, green below the snow.—*Macrocarpa*, certainly the most desirable and beautiful of the *Cupressi*; but, I am afraid, mine is killed to the ground. Wherever the *Taxodium Sempervirens* will grow, this, I think, will also.—*Horizontalis*, uninjured.

TAXUS.—*Baccata*, a little browned, but safe.—*Dovaston* (weeping), a little browned.—*Elegans*, uninjured.—*Elegantissima*, uninjured.—*Adpressa*, little touched.

THUJA.—*Aurea*, beautiful; untouched.—*Thuja variegata*, untouched.—*Thuja Orientalis*, perfectly hardy.—*Thuja Siberica*, perfectly hardy.—*Thuja Plicata*, perfectly hardy.—*Thuja Pendula*, or *filiformis*, very hardy, and very desirable.

LIBRO-CEDRUS CHILIENSIS.—Uninjured; a great acquisition.

CEDRUS.—*Libani*, hardy, *though quite* brown this winter.—*Deodara*, hardy, *though quite* brown this winter.—*Deodara viridis*, hardy; less injured.—*Africanus*, hardy.

ARAUCARIA.—Small plants; under the snow all winter; perfectly green.

CRYPTOMERIA JAPONICA.—Plants unprotected, looking greener than those protected.

CRYPTOMERIA JAPONICA.—*Nana*, hardier than preceding.

CRYPTOMERIA JAPONICA VIRIDIS, ditte.

CEPHALOTAXUS FORTUNEI, Male and Female, have gone through the winter beautifully, with only a few leaves round them. These trees, and the *Libro cedrus*, are the very greatest acquisition of last year, I believe, of the newer things.—*Saxe Gotha Conspicua*, and *Fitzroya Patagonica*, will prove hardy; perhaps *Pordocarpus Taxifolia*.

CUNNINGHAMIA SINENSIS.—Just manages to hold its own year after year; I have little doubt it would thrive planted mainly in sand on an elevation well drained, and in shadow of a pine wood.

TORREYA TAXIFOLIA.—Is perhaps the most satisfactory of the rarer Evergreens. My specimen is 12 feet high, and uninjured, except the leader is a little whitened.

Of the Evergreen shrubs that stand here without protection, are the *Rhododendron Ponticum*, *Catawbiensis*, and the *Belgic* hybrids, and the *Ferrugiani Andromeda floribunda*, *Ilex Lancifolia* (*Latifolia* I have given up), *Cotoneaster Buxifolia*, *Kalmia Latifolia*.

In recapitulation, I think I can grow upon this place 73 of the newer Evergreens, exclusive of Evergreen shrubs, and of 12 varieties of Norway Spruce not yet wintered out, all dwarf—never, I understand, at the end of 50 years, even exceeding *three or four feet high*.

I recommend, among the new things, the *Pampas Grass*—a superb exotic—growth, of a sort of reed, 6 to 12 feet high, and very ornamental, and *Chamaerops Chusan*—a new *Palm*, said to be entirely hardy in England; *Des fontainea spinosa*, and *Eugenia Ugni*, both Evergreen shrubs of rare beauty, and said to be quite hardy; the latter bearing a fruit.

Very truly yours.

April 9, 1856.

[The above truly valuable and reliable information, will be received by its readers with great satisfaction; it agrees entirely with our own more limited experience; the native hemlock has been as severely handled, in our neighborhood, as many of the rarer evergreens, and has not stood so well as the *cryptomeria*. The same information, in the main, is received from *Cincinnati*, from our correspondent, R. Buchanan, Esq., so that there is much reason to be gratified with our prospects in the cultivation of evergreens; we are now more advanced in the knowledge of what will suit us than ever before. Mr. Sargent's article is timely, and highly useful.—Ed.]

FOREIGN NOTICES.

NEW PLANT.—*ACHIMENES MAGNIFICA*; *alias* *LOCHERIA MAGNIFICA*. *Planchon and Linden in Fl. des Serres*, x. t. 1013.—Most people would call this an *Achimenes*, of which it has all the habit, and, as far as we can discover, all the essential points of structure. We must, therefore, object to the introduction of a new name for which there is no sort of necessity, either botanical or horticultural. It is said that *Locheria* differs from *Achimenes* in having the cup in which the ovary is seated of a membranous instead of a fleshy texture; so that the subdivision of genera is now to be made dependent, not only upon the mere thickness of an organ, but what is worse, of one of no functional importance. To that doctrine few in this country will subscribe.

Putting aside names, we must add that the plant before us was introduced from Popayan by Mr. Triana, one of the collectors employed by Mr. Linden. It would appear from the published plate, a figure of which we copy of the natural size, to be extremely handsome, with thick, velvety leaves, and large flowers of a rich, deep red color, spotted with lines of black purple. It may be compared to a gigantic form of *Achimenes hirsuta* or *pedunculata*; like which it has the scaly rhizome and little bulbs so common among plants of its class. We observe that Mr. Linden has it in his new catalogue under the name of *Locheria magnifica*, at the price of 20 francs.



HOW TO TREAT PLANTS WHICH HAVE BEEN DRIED UP, AS ORANGE TREES, &c., RECEIVED FROM ABROAD.—It may, perhaps, be worth while to detail the means by which a plant apparently quite dead from drought was restored to vigorous growth. A large *Gardenia florida* was received in such a condition as to appear worthless. The more succulent part of its stem and branches were withered; its leaves shrivelled up, and the whole aspect of the plant resembled a newly-planted evergreen killed by the March winds. There were many circumstances which rendered it desirable to restore the plant if possible, and what seemed hopeless was attempted, and, as the sequel will show, accomplished. As a preliminary, the plant, pot and all, was immersed in a tank of water, sufficiently large to cover every branch. Here it remained until the bark became plump by absorption, and after being removed, and the now saturated soil washed from its roots, leaving them as bare as the branches, it was repotted in as small a pot as would conveniently hold the roots, using a compost suitable to the nature of the plant. The entire stem, as well as the main branches, was now enveloped in moss, and kept constantly damp by syringing. Of course the plant was shaded on sunny days. The pot being plunged in a gentle bottom-heat, and a damp atmosphere maintained around the branches, in a short time the leaves began to drop off—a certain sign, under the circumstances, of returning health. Two or three weeks elapsed, and tiny buds began to push; leaves and shoots followed, and the plant was restored. True, most of the smaller

branches never recovered; nor was that of much moment, as the vigorous growths from their bases more than compensated them. In all cases of this kind, very gentle stimulants must at first be given, and these with caution. Heat, injudiciously applied, or without the necessary adjuncts, will often accelerate death rather than restore to health; and the same holds good with respect to both bulbs and seeds. The latter, when the vital principle is become dormant by age, will often decay if subjected to the excitement of a tolerably high temperature, when, if sown merely in a cool frame, they vegetate freely. And so of bulbs: if these are received in a dry and shrivelled condition, the first care should be to restore the lost juices; when this has been accomplished, the vegetative principles may be aroused, but not before. These necessary precautions are not always attended to, and the consequences are the loss of many plants which might have been saved. Even in the cultivation of the ordinary hyacinth this is not sufficiently observed, especially by amateur and lady cultivators. When, as is often the case, the bulbs have lost much of their plumpness, they should either be placed, for a day or two, in damp sand, or enveloped individually in a piece of moistened flannel, before being placed in the glasses. And even when they are there, it is an excellent plan to cover the crown of each with a piece of thick blotting-paper or thin cloth, kept moist by a few threads connected to it, and touching the water below. I have seen the best results follow this plan.—G. W. L.

A MODEL FLOWER BED.—A quantity of larch stakes, three feet long, and two inches and a half in diameter, were driven, side by side, eighteen inches into the ground, leaving one foot and a half outside in an oval shape, eighteen feet long, eleven feet wide over the centre. The interior was filled up rather above the level with the soil. Around the stakes, outside, was planted, pretty thick, common Ivy, which, when I saw it in September last, formed a complete mass all round the bed, and kept the decaying stakes in position.

Now for the planting and arrangement of this raised bed, which, you must understand, was designed as a break to a heavy part of the ground, and, as Mr. Abbot, the gardener, here remarked, "with telling effect."

Immediately down the centre were six plants of scarlet *Salvias*; at each end of those was a plant of the variegated variety of *Salvia fulgens*; encircling those was the blue *Ageratum*; again, around those the *Frogmore Scarlet Geranium*; then a circle of yellow *Sultan Calceolaria*, which brought it to the edge, around which was planted the white *Ivy-leaved Geranium*. This was allowed to hang over quite down to the turf; and being full of white flowers, they beautifully blended with the dark green of the common Ivy and yellow *Calceolaria* above; then, again, with their immediate neighbors, and so on to the top of the *Salvias*, forming as rich and gorgeous a bank as, I am sure, none of your readers would ever regret imitating.—*Cottage Gardener*.

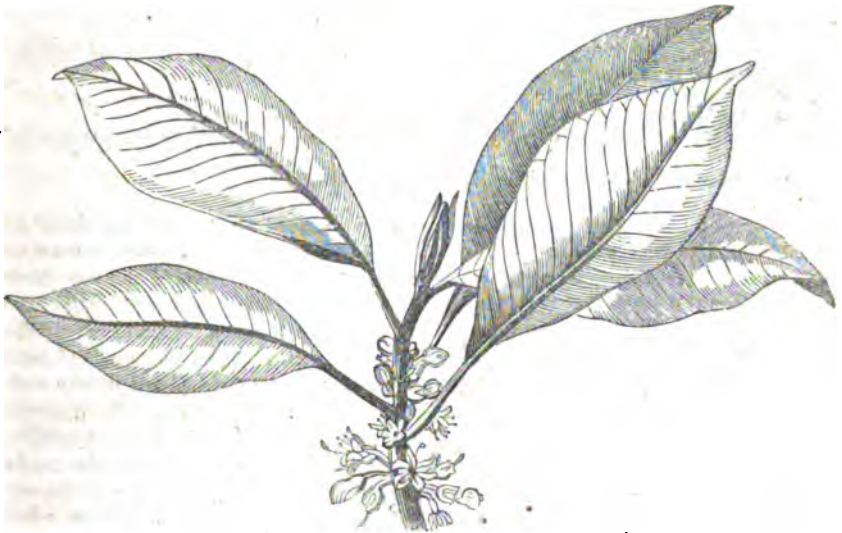
PRODUCTIVENESS OF A DORKING HEN.—As I am prepared to prove the truth of the following statement of the performances of a hen, nearly pure Dorking, in the past year, I send it to you for insertion, thinking it may interest some of your numerous poultry readers:—

On the 12th of January she hatched thirteen chickens; she reared twelve, and left them at eight weeks old. Laid twenty-three eggs; sat on seventeen; hatched them all, and reared them. Laid again nineteen eggs; sat on and hatched thirteen, and reared them all.—JOHN BAILY.

NATURE PRINTED FERNS. By MR. THOMAS MOORE AND DR. LINDLEY.—This must be accepted as the greatest book of the year—23 by 15 inches: nor does its value rest on its size, for, with conductors so eminent, it were strange indeed if it proved to be other than it is—faultless.

GUTTA PERCHA.—Great interest naturally attaches to a plant furnishing an important material like gutta percha, which has been found to be adapted to so many useful purposes. The concrete juice of the tree was known in Europe and America before the tree which produced it was described. Mr. William Lobb, the indefatigable collector, had the honor of first forwarding dried specimens, from which it obtained a name and station in systematic botany; the name is *Isonandra Gutta*, of the natural order Sapotaceæ.

It is a large tree, attaining a height of 40 feet, and sometimes a diameter of 3 or 4 feet. The leaves are alternate on the branches, somewhat leathery in texture, and obovate, entire in outline, attenuated at the base into the largish petiole, by which they are attached; they are green on the upper side, and orange shining beneath. The flowers are small, each singly stalked, more or less drooping, and growing in fascicles from the axils of the leaves; they are subrotate, with a short tube and six ovate or spreading lobes; twelve prominent stamens are attached round the mouth of the tube. The fruit is egg-shaped, each cell with one ovule. It is a native of Singapore, Borneo, and other Malay islands; its timber is of no value, the wood being soft, fibrous and spongy, pale colored, and traversed by longitudinal receptacles or reservoirs, filled with the gum, forming ebony-black lines. From the fruit is obtained a concrete and edible oil, which is used by the natives with their food. The tree is not hardy, and its beauty is scarcely sufficient even to introduce it into our hot-houses, except as a curiosity.



Of the various uses to which gutta percha is already applied, the following lines, written by a visitor to the great manufactory in London, will convey an idea, though he has by no means exhausted the catalogue:—

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| 1. "My Parent died when I leap'd from her side
To fill mankind with wonder, | 1. The gutta percha trees are tapped and they then
die. |
| 2. And now I abound, in the wide world around,
The green sward above and under. | 2. Used above and below ground. |
| 3. I hold the flower in the sunny bower; | 3. Flower-pots. |
| 4. I shelter the dead in their graves. | 4. Lining for coffins. |
| 5. I circle the hair of the maiden fair; | 5. Bonnet-caps. |

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| 6. And bid defiance to knaves. | 6. Policemen's caps. |
| 7. The miser his gold often gives me to hold; | 7. Money-bowls. |
| 8. I aid to extinguish the fire. | 8. Water buckets and engine-pipes. |
| 9. I am chased o'er the green, when the schoolboy is seen; | 9. Cricket balls. |
| 10. I wait at the toper's desire; | 10. Mugs. |
| 11. I ride on the wave, the sailor to save,
When he shrieketh aloud in despair; | 11. Life-buoys and boats. |
| 12. I whirl the machine, whose arms dimly seen,
His as they fly through the air. | 12. Machine-driving belts. |
| 13. I have been tried and am cast, with felons at last; | 13. Indestructible vessels for the use of prisoners. |
| 14. I am balm to the wounded and torn. | 14. Balsam for slight wounds, instead of sticking plaster. |
| 15. I rival the oak, (16) the tell-tale I cloak; | 15. Ornamental mouldings. (16.) Coating of the Telegraph wires. |
| 17. I am fashion'd as high and low born. | 17. Medallions and casts of celebrated and notorious persons. |
| 18. I constantly mind the sightless blind. | 18. Cord for window blinds. |
| 19. Many garments my long arms bear; | 19. Clothes-lines. |
| 20. By the sick man's bed, (21) by the ship's mast head—
In various forms I am there. | 20. Utensils for sleeping apartments. (21.) Cordage and speaking-tubes. |
| 22. Deep in the earth, though unseen, is my worth;
I faithfully serve mankind. | 22. Pipes for draining, &c. |
| 23. I hear the whisper of the softest lipper; | 23. Acoustic tubes. |
| 24. And hold that which traceth the mind! | 24. Inkstands. |
| 25. When the emigrant lands on far-off strands,
Perchance he treadeth on me. | 25. Soles of shoes. |
| 26. On the rich man's table, (27) in the horse's stable,
My forms you may frequently see!
Now I challenge your mind my secret to find, | 26. Ornamental dishes. (27.) Buckets and harness. |
| 28. Though I travel along by your bed. | 28. Noiseless curtain rings. |
| 29. I come from the south; (30) I may dwell in your mouth; | 29. From Singapore, &c. (30.) For filling decayed teeth. |
| 31. Or may rest on the top of your head." | 31. Sou'-wester hats. |

IGNORANCE OF COMMON THINGS.—It is indeed to be deplored, that whilst the clergy and gentry are founding schools in almost every village, and duly providing "trained" masters and mistresses to instruct the rising population in what is generally considered the most necessary branches of learning, that botany, or, as your remarks last week have it, "the use of the common things which surround them," should in no shape find a place in their studies; but the mere study of botany from books is not sufficient to bring the minds of young children, such as are usually found in village schools, to understand plants in any useful way; their minds would become bewildered in the maze of technical terms. My impression is that the instruction should consist in simple lectures, illustrated by the things themselves, assisted by a simple question and answer book, got up without Latin or technical terms; and, as few schoolmasters or mistresses are at present sufficiently acquainted with the vegetable kingdom to impart such instruction to their pupils, let the patrons of these schools call in the aid of their gardeners, who are, or should be, sufficiently well informed to impart information enough on the subject, to lead the minds of the pupils to inquire and desire to know more of things with which they have every day to do: that done, books will be resorted to to feed the growing desire for knowledge, and when such a system gets fairly into practice, such deplorable accidents as you alluded to would doubtless become extremely rare; besides, a knowledge of botany would administer to the enjoyment of life, for, at every step, the botanist meets something to attract and interest him, at every turn a friend, an old acquaintance in every familiar plant that strikes his eye; silent and unobtrusive, but not the less a friend, it abstracts him for a while from the cares and anxieties of life.—H. HOWLETT, *Haverland*.—*Gardener's Chronicle*.

EDITORS TABLE.

GERMANTOWN, N. Y., March 22, 1856.

DEAR SIR: On the night of the 25th of December last, we had an icy rain; the following morning, everything was completely enveloped with ice; branches of fruit-trees no larger than a straw, were frequently seen increased so much in thickness, as to measure an inch in diameter, and fruit trees, in many instances, were laden with it so heavily as to be completely crushed with its weight. This ice remained on the fruit-trees about ten days, the weather, in the mean time, being severely cold; the ice never thawed off, but froze and shook off with the wind. Its remaining on so long has been very injurious to the fruit buds of the peach and apricot, completely spoiling them in this locality.

Yours, truly,

WM. TOMPKINS.

BURLINGTON, IOWA.

J. JAY SMITH, Esq.—MY DEAR SIR: If Jeffrey's Red Raspberry, alluded to in his review, in the March number of your magazine, prove to be "as hardy as a currant bush," it will be an acquisition to us worth many dollars.

The ravages of the past winter have been very severe. The damage cannot, as yet, be ascertained; but one feels sad enough in passing along the garden walks, and looking at the destruction wrought among the shrubbery. Only think of it—from December 24 to about the same date in February—two long, dreary months, with the mercury hybernating in the bulb of the glass, only to note, if possible, a greater degree of cold. It is useless to name dates, but, if 60 days of winter, below zero all the time, and, occasionally, even as low as 32° (we had it on two occasions, January 9, and February 15, at that), does not destroy all our hopes of a fruit crop, it will be because our trees are hardier than we now regard them. We usually have the mercury as low as 12°, 14°, and even 20° below zero, once or twice in the course of the winter, but our oldest residents cannot call to mind such continued cold as we have recently experienced. Even on the 9th and 10th of the present month, we had it 10° and 11° below zero. Your theory, in your leader, with regard to Illinois, of a tropical summer and arctic winter, is especially true of Iowa. Would it not be as well to note these facts, that fruit growers, intending to come this way, may see both sides, as is but fitting and proper? It is to be hoped that due record will be made of such hardy fruits as have escaped this winter, as guides for cultivators hereafter, both here and in more northern latitudes. Your valued periodical grows monthly in interest, and in the regard of its many readers in the West.

P. S.—Jeffrey's note of warning respecting our fruits, soil, &c., is not unheeded; but, if you can tell us more than we already know of blights—both sun and frozen sap—of curculios, apple borers, and the like, I trust it is to suggest some remedy for the pests. We have almost abandoned plum culture here, as well as cherries, except a few pains-taking experiment-makers, who yet hope for success. Blights, too, of all kinds, have stricken down many a hundred beautiful and brave dwarf and standard pear-tree, to the profound grief of the owners. Still, when one does succeed here, his triumph is complete. As to the flavor of our fruits, ask Mr. Barry; it is generally good enough for our visitors as well as ourselves. If 32° below zero has not utterly destroyed our pear buds, I trust "Jeffrey" will see, at Rochester, some of their products, even if none of the producers are there.

I remain, very respectfully,

J. F. TALLANT.

Gossip.—The coming event, expected with anxiety, but fully expected, is *steam ploughing*. Who doubts it? The same people who doubted ocean steamships and the telegraph. The agricultural papers describe a *machine* for sheep-shearing; we have seen one for clipping hedges.—The Southern papers speak very highly of Mr. Art's Catawba wine, made during the past season. Mr. A. is planting vineyards in various counties, at so much an acre.—A

correspondent says he has great confidence in the benefit to be derived from cutting branches from plum-trees, when in full bloom, to make them productive; the process has no influence on the curculio.—Keeping bouquets is an important consideration. Let two clusters of fresh gathered flowers be introduced into a sitting-room; place the one in the mouth of a narrow-necked jar of water, and arrange the other over a shallow dish of water, and it will be found that the latter will be perfectly fresh, days after the former are faded. If a larger dish, with water in it, is placed below, and a bell glass set in the water, so that no external air can enter, the flowers may remain perfect, say camellias, &c., for *whole weeks*, because they are surrounded by air incessantly moistened by vapor from the plates.—If you want to be successful in transplanting, don't be afraid of working in dull weather. If you are shy of a "Scotch mist," buy an India-rubber mackintosh. Nothing is so cruel to many sorts of trees as to let their tender fibres parch up in a dry wind, or a bright sun. Such weather may be fun to you, but 'tis death to them.—A Neapolitan ambassador, at the English court, said, that during a residence of ten years in London, he had eaten but one ripe fruit, and that was a *baked apple*!—The mistletoe is sometimes found on trees in New Jersey, as well as farther south. The berries are transparent, and enliven the whole plant.—There is no plant lately introduced, that will give more pleasure to the many lovers of fine shrubbery than the *Wiegelia rosea*; the *amabilis* is probably little inferior. These, and the various spireas, are our best treasures for early blooming—displacing the lilac and other old favorites.—We have, in Philadelphia, two successful cultivators of pine-apples, Mr. Anspach and Mr. Tucker. They produce as good pines, at least, as are ever seen in Covent Garden market, or on the tables of the nobles of England, from which country it is best to import plants; those coming from the islands are apt to be so infested with vermin as to be a nuisance.—The most skilfully constructed bouquets are those with the brightest colored of the flowers in the centre, gradually decreasing in intensity of color from that centre to the edges of the groups. One prevailing color of different degrees of intenseness will prevent a patchy or spotty appearance. If bright crimson roses form the centre, paler roses should be near on either side as well as above, and the same will hold good of geraniums, &c.—Some of our correspondents insist that the *Rhododendron* figured in the January number, is *Catawbiense*. It may be so, but we shall not pronounce upon it till we see the plant in bloom—principally because Mr. Van Buren, who communicated the description and the colored drawings, and who has the opportunity of inspecting it carefully, and who is familiar with the *Catawbiense*, believes it is *not* that species.—Mr. Rivers has exhibited, in England, dwarf cherry-trees on the mahaleb stock, only one foot high, that have each borne nearly a quart of fruit. Our own dwarfed cherries exhibit a great inclination to grow beyond dwarfing management, probably for want of root-pruning, which has not yet been attempted. Remember that the ashes of anthracite coal is a good manure for cherries; they do not require much enrichment of the soil.—The apricot may be dwarfed by budding it on the sloe.—The interest felt by so many landholders in this country in the cultivation of fruit, causes an amount of practical intelligence to be devoted to the subject that has no parallel on the other side of the water. It would be impossible to assemble the same number of practical scientific cultivators in any other country, as will meet, for instance, at Rochester, the next autumn. These conventions are rapidly clearing up vexed questions, and establishing truths.—However unfortunate the late winter may have been to private gardens, the nurserymen must not complain; there are few who will cry, "Hold! enough!" and orders will flow in for recruits to supply the place of the soldiers killed off. Roses, especially, will be in demand.—Tulip beds may be kept in perfect bloom for three weeks, by shading them with any kind of sheeting fastened to a wooden frame. Without this their bloom is short.—All sensible people believe, by this time, in the power and virtue of the individual home; combinations for health, and air, and trees, and sunshine, need not partake of one iota of the "community system," which, till human nature is altered, and that never will be *in our time*, is found, in practice, utterly at variance with the constitution of the human mind. Men do combine satisfactorily to pave, light, and procure good water, without a quarrel; then why not unite to have a handsome and healthy country park, instead of so many compacted towns as we often see?—A family in Scotland has been poisoned by a rustic servant mistaking monkshood for horseradish; the cook, also, not knowing the difference, scraped the former, sent it to the table, and poisoned the guests, three of whom died in an hour or two. The *Gardener's Chronicle* says this comes of people being barbarously instructed, and employs the occasion to enforce the necessity of instruction in common things.—The Herbaria, belonging to the London Horticultural Society, has been brought to the hammer; they were the collections of the officials sent abroad, and were made in order that the officers might be able to ascertain the names and value of the seeds which were sent home; that purpose served, they became mere

records of past discovery, of very great botanical interest, but with no further bearing upon the objects of their owners. Douglas's collection, formed in Northwest America and California, amounting to 500 species, was purchased by the British Museum for \$150. Hartweg's, for \$100. The whole realized about \$1,200.—The *Independence Belge* informs its readers that "in the Belgian colony of St. Thomas, a potato has been grown, weighing more than 50 lbs." Good-by, big gooseberries.—Fronds of ferns are employed to embellish baskets of fruit for the table; they give the fruit an ornamental and somewhat foreign appearance.—The forcing of shrubs is most successfully managed when the pots are full of roots from early potting, and these roots receive the advantage of a mild bottom heat before a higher temperature affects the buds.—Hives, in which swarms of bees of the previous year have died, should be kept clean and dry, and out of the way of mice, for the purpose of hiving swarms in them. The time this precaution saves a swarm can scarcely be credited.—Do fishes hear? is a question just now debated abroad; the conclusion come to seems to be that they do not; concussions of the air by thunder, and so forth, startle them, but the sense of hearing is believed to be wanting.—An ornamental object for a window, or room, may be made by placing a large pine cone in the mouth of a glass having a small quantity of water at the bottom. The scales of the cone are first slightly opened, and lentil seeds are dropped into the openings. Water is sprinkled over the cone as may be necessary, say twice a day, and, in a short time, the lentils send up their small green shoots, and cover the cone. The scales are opened by placing them in any moderately warm place for short time.—In Lindley's *Theory of Horticulture*, it is stated that a M. Otto, of Berlin, employs oxalic acid to make old seeds germinate. The seeds are put into a bottle filled with oxalic acid, and remain there till the germination is observable, which generally takes place in from twenty-four to forty-eight hours, when the seeds are taken out, and sown in the usual manner; of course, placed in a suitable temperature as the seeds may require. Another way is to take a woolen cloth, and wet it with oxalic acid, on which the seeds are placed and folded up, and put into a suitably heated structure. By this method, seeds have been found to vegetate equally as well as in the bottle. Essential care must be taken to remove the seeds out of the acid as soon as vegetation is observable. M. Otto found, that by this means, seeds that were from twenty to forty years old grew; while the same kinds, sown in the usual manner, did not grow at all.—Some of the old gardeners have an idea that old cucumber and melon seeds produce plants more fruitful than those from new seeds. The most luxuriant plant is produced from the good, sound, and plump new seed.—The last priced catalogue published by Groom, lately deceased near London, contained three varieties of the tulip, at the enormous figure of five hundred dollars each; they were all of his own raising; there is also one at two hundred and fifty dollars, twelve at a hundred dollars, and four at fifty dollars each. Mr. G. succeeded best by mixing large quantities of coarse river sand in his soil. His whole stock has been dispersed since his death.

The Cranberry, and its Culture, is the title of another manual, from C. M. Saxton & Co., New York, written by B. Eastwood, very well illustrated, and full of information. The culture of this fruit is of great importance; it will pay well in soils suitable for little else. A large demand, even for export, has grown up, and, from the easy transportation of the fruit, it is very profitable. The experience detailed in this work cannot be dispensed with by those intending to plant the cranberry. From ten to fifteen dollars a barrel is the price now obtained in the Boston market; a pint has been sold in London for nearly a dollar; all that can be raised will find a market. In the appendix, there is an estimate of the profit of the culture, by Mr. A. Flint, as follows: In 1853, he sold fifty barrels, at thirteen dollars the barrel, making *six hundred and fifty dollars* as the product of *two acres* of what was quite recently an almost worthless bog meadow!

THE AMERICAN POMOLOGICAL SOCIETY will hold its next meeting at Rochester, on the 24th of September. The regular notice from the President was unaccountably omitted last month.

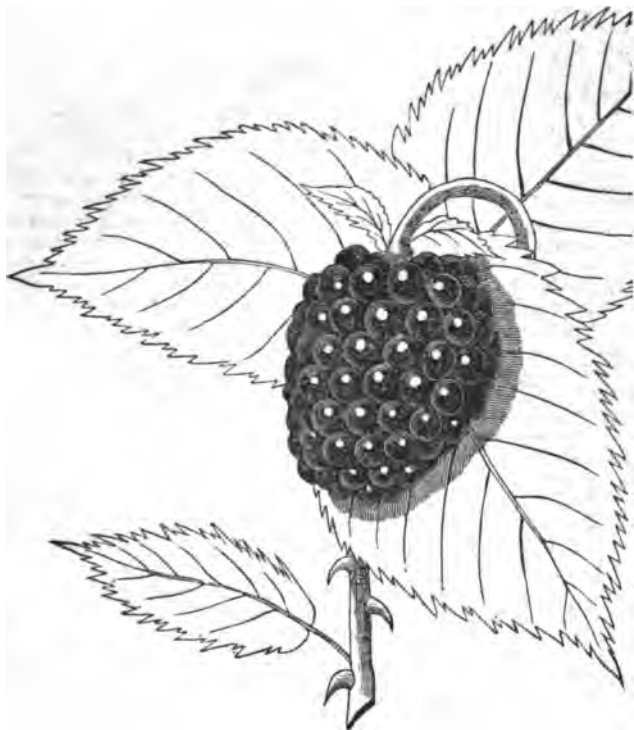
A. LOOMIS, of the Byron Nurseries, Genesee Co., N. Y., has issued a very comprehensive catalogue of fruit, and ornamental trees and shrubs, roses, vines, &c. We hope his neighbors, and persons within reach, will consult the catalogue and plant the trees.

THE interest attached to the pursuits of floriculture is well expressed by Teschemacher, who says: "Examples are exceedingly rare of men once engaged in it ever giving it up but with their latest breath—

What were life without a rose?"

MOVING TREES.—In removing trees early in the past month, it was interesting to remark that nurserymen who had underdrained their grounds, were enabled to commence their deliveries at least ten days, or two weeks, before their neighbors who had neglected this highly important precaution. A commentary, this, on draining, which speaks volumes. It is stated that land worth but a dollar and a half an acre, in England, has been converted to the value of fifty dollars, by drainage alone.

THE LAWTON BLACKBERRY.—The importance attached to the cultivation of the Lawton Blackberry, has induced us to have an engraving made of the vine and fruit. We give,



also, its mode of cultivation, from Mr. Pardee's book on the *Strawberry, &c.*, just published by C. M. Saxton & Co., of New York:—

CULTIVATION.—The Blackberry rejoices in a moist, loamy soil, but will grow well in higher exposures, and is rather benefited by a little shade and a cool northern aspect. When thus favored, it will prolong its period of bearing from four to six weeks. Usual good garden soil is favorable for the Blackberry, and it will bear being made pretty rich with manures after the first year, and especially with muck or woods'-mould. It should be transplanted as early in the spring as possible, or in the fall, and especial care should be taken of its fibrous roots, and its whole general culture, the first year, and then it will grow, produce fruit, and propagate itself rapidly.

The canes which come up one season will bear fruit the next, and then die in the autumn, and the dead branches must be carefully removed early every spring, in order to make room for the new ones to take their place, and this beautiful process of reproduction thus goes on; so that a single plant, set out in a good, free soil, will send up two, three, or four plants, and those will increase to a score or more the following season, if carefully pruned and kept clean.

The ends of the canes should be shortened about one-quarter early in the spring, when the old decayed ones are removed, and, if the laterals are too long, clip them also. They usually require no support.

TRANSPLANTING.—Particular care, we think, is needed in transplanting the Blackberry. It should not be attempted late in the spring, otherwise a great share of the plants will hardly survive the process. Mulching and watering are often useful, and even necessary, when transplanting.

It is well to set the plants four or five feet apart in rows that are eight to ten feet distant, and they will soon cover the ground, and thus 500 plants will set an acre. Some large

growers in the vicinity of New York, have readily contracted their entire crop for the season at 25 cents to 37½ cents per quart. We have given a large space to this variety, not only because it is new, but because we believe it to be worthy of extensive cultivation by the public, both as amateurs and for the market.

Portraits of the Fastolf and Red Antwerp Raspberries, copied from Mr. Pardee's book, are also given below:—



The Fastolf.



Red Antwerp.

The mode of cultivating these valuable varieties has been given so lately in the *Horticulturist* (see page 14 of this volume), that it is unnecessary to repeat them here.

AGRICULTURAL. FOREIGN SEEDS.—An interesting letter from the Patent Office to the Congressional Committee on Agriculture, briefly reviewing what has been done in the way of naturalizing foreign herbs and plants in the United States, has appeared. Everybody knows that some years ago, on the representation of the Patent Office, instructions were sent to our representatives abroad, and to the naval officers on foreign stations, to collect seeds and bulbs and cuttings of foreign growth, and to send them home for trial here. The plan has been in operation but a short while, and the appropriations made for it have been small, but the results, as given in Mr. Brown's report, are already very gratifying. Most farmers are acquainted with the "Mediterranean wheat," which ripens in great abundance, earlier than our common varieties; a few years ago it was unknown here. From France we have obtained two Chinese plants, which the enterprise of French agriculturists domiciliated some time since on French soil—the "Chinese yam"—a very fair substitute for the potato, and the "Chinese sugar-cane," one acre of which produces twenty-five tons of fodder, of the most nutritious and excellent kind. Another good forage crop has been obtained from the "chufa," a plant of Spanish origin; and yet a third from the *Moha de Hongrie*, from France. Cuttings of foreign plum-trees have been imported in large quantities, and engrafted upon the common plum with such success, that we may shortly expect to produce all our own dried prunes. It is now proposed to import more largely than heretofore, in fact, to obtain from abroad every plant, herb or tree which has been cultivated successfully anywhere. For this, larger appropriations than usual will be necessary. That Congress ought to grant them, there can be no question.—*Nat. Intelligencer*.

THE NEW YORK HORTICULTURAL REVIEW.—A brief paragraph from the publisher of the above work, last month, announced that it had been merged in the *Horticulturist*. After six months of unbounded advertising, and efforts of various kinds, that, if employed in another occupation would have led to happy results, it transferred to this periodical exactly one hundred and seventy-five subscribers, and many of those were obtained by sending agents abroad, and at an expense of from four to fifteen dollars each! The proprietor printed a large edition, which was distributed monthly to postmasters, and agents of periodical works; at least 500 copies were sent as exchanges with newspapers, &c. The result has been the loss of some thousands of dollars, time thrown away, and talents misapplied.

We give these facts as an evidence that another Horticultural Journal is not required at the present time; it is not the first, second, or third attempt, that has eminently failed, both at the East and West, and it probably will satisfy any person desirous of embarking in such a dangerous experiment, that it would be better to seek an occupation more likely to be rewarded for anxiety, trouble, and expense. The American people are deeply interested in agriculture, and works on that subject have multiplied of late with remarkable rapidity; many are entirely successful, and are disseminating valuable information; but many of these are obliged to combine the character of a news journal, and to make the farming portion of their columns very brief. All of them more or less embrace the topics of horticulture; they appear, many at least, weekly, and are placed at very low prices; the farmer's fireside welcomes their arrival, because they diffuse a general knowledge of what is passing in the world, and to members of the circle not interested in agriculture, convey something for each.

With a horticultural journal it is different. To make it of any real value, and offer it at a cheap rate, it must confine itself to its legitimate topics; the news of the month would lead it down, so as utterly to destroy the opportunity of discussing its subjects at any length. The number of persons really sufficiently interested in horticulture to pay for such a journal, is comparatively small. We have the whole American market, so to speak, and kindly interested readers, of many years' standing, using great personal exertions to extend and keep up our circulation, from an impression that the work is useful. Then, again, the contributors are the best and most able writers on horticulture in the Union; they have been attracted to these pages by its original merits, have continued to read it, and to write in its columns, till it has become more and more, by general consent, the medium of communication between the active and useful men of the country, in all the States and Territories. This character it shall be our aim to support.

With all this, the gardening interest and the horticultural taste, and with large advertising patronage, it has never reached a circulation of more than a few thousand, and, till 1854, could not be considered a paying journal. The additional patronage, which was brought to it by the care and talents of Mr. Barry, elevated its circulation from twenty-four hundred to about four thousand; it has now, thus early in the year, many hundreds of subscribers more than at the close of 1855, thus showing that there is a gradual increase of demand; and there is every reason to believe that, in December, 1856, it will considerably exceed five thousand; this is after ten years of untiring devotion to the interests of its readers, and the attention of careful and enterprising publishers.

We therefore could recommend, with a clear conscience, none to attempt very soon the establishment of a horticultural journal, unless with plenty of money, which they are willing to part with.

CLIMATOLOGY.—A valued correspondent, in a previous page, has given our readers a very interesting paper on Climate, a subject of the greatest importance to all of us. We would caution the farmer, no less than the horticulturist, not to estimate the value of his climate entirely by the quantity of rain that falls in a given district. Water, as the universal solvent of the nutritive matters, is indispensable, but much unnecessary trouble has been taken to calculate the quantity of water, as rain or snow, that falls upon the surface of the earth. The free water of the soil, many scientific men think, is seldom beneficial to plants, and only bog plants, or those which grow in water, will exist in it. In those portions of the earth which produce the most plants, water is only occasionally present (as after rain, &c.) as a coherent fluid; the normal condition of water in the soil is as hygroscopic water, or absorbed vapor. The complete independence in vegetation of the atmospheric precipitation of rain in a liquid form, is seen in the vegetation of the oasis, and of the cloudless coasts of Chili and Peru. The sand of Sahara produces no vegetation, not because no rain falls upon it, but because it has not the power of condensing aqueous vapor. Of the water that falls as rain, very little is used directly by the plant; the greatest part runs off, or is evaporated into the atmosphere, whilst another part sinks into the earth and feeds the springs. There are but few observa-

tions on the quantity of water needed by plants, but those that have made any pretensions to accuracy show that rain, after making allowances for that which flows away and is evaporated, does not supply more than a tenth part of what is necessary. It is unaccountable and inexcusable, that not a single botanist, since the time of Hales, should have taken up and carried on his important experiments on this subject.

The quantity of rain which falls in a given region, is not a measure of its fruitfulness; but the quantity of moisture, the absolute and relative quantity of vapor, which yearly, and especially during those months which are most important for vegetation, is contained in the atmosphere.

But water is not the only, nor the most important portion of the food of plants. They require carbonic acid gas, and the volatile salts of ammonia, which must be derived from the atmosphere; they are absorbed—the carbonic acid partly, and the ammoniacal compounds probably entirely, by means of the roots; clay and soil must be present as media to convey them to the plant. Though, in England, but half the quantity of rain falls that we find in a large portion of our country, the moisture of the air, and, consequently, with it the proper food, is more regularly and constantly supplied than in our arid regions. Coniferous, and other trees, flourish here better in situations where there is found to exist a succession of damp nights and mornings, as in regions where the dew is not dispersed till long after the rising of the sun.

MR. J. J. SMITH.—DEAR SIR: I think you would confer a favor on horticultural societies, if you would publish a list of their corresponding secretaries, and thus enable them to exchange publications. Yours, very truly,

CHARLES GIFFORD, *Milwaukee.*

It would doubtless prove useful to do so, and if the various horticultural secretaries will at once forward their names and residences, we shall with pleasure comply with the suggestion. Such a list, too, will, in fact, form a catalogue of existing horticultural societies in the Union and Canada. It shall appear in June or July, if all will forward the information.

STRAWBERRIES.—There has been a rather warm discussion, in the Cincinnati Horticultural Society, as to the merits of *McAvoy's Superior*, and *Hovey's Seedling Strawberries*, with the majority and minority reports of a committee appointed on the subject. The discussion and reports occupy nearly two columns of small print in the *Daily Inquirer*. The following appears to be the conclusion arrived at by the Society:—

Mr. Orange then moved that the whole subject be laid on the table.

At the request of Mr. Hatch, the motion made by Mr. Orange was withdrawn, when Mr. Hatch offered the following resolution:—

"Resolved, That the opinion heretofore entertained by this Society, as to the excellence of the strawberry known as *McAvoy's Superior*, remains unchanged, it having been fully tested as a garden fruit, and, in this vicinity, proved to be delicious and hardy. As a fruit for general field culture, and for market, the high price of plants has heretofore prevented its being tested."

The following amendment was then offered by Mr. Greene:—

"*Hovey's Seedling*, for field culture and market purposes, holding its position as superior to all others tested."

The question being then taken on the amendment offered by Mr. Greene, it was carried by the casting vote of the President. The resolution then, as amended, was carried by a large vote.

The Society then ordered the reports of the majority and the minority on the Strawberry question to be printed with the proceedings.

FRUIT.—A cargo of fruit from Japan, is advertised in the California papers; of what descriptions, not stated. In New York, watermelons from Nicaragua have been pronounced "excellent," in March last. Some of the California papers are printed on Chinese paper; significant facts, these.

GUTTA PERCHA.—The curious article on Gutta Percha, which we have compiled for this number, will find many readers. The discoverer of this inspissated sap of an Indian tree, was Dr. William Montgomerie, of the Indian medical service, and this only in 1845; he first observed that the handles of the knives of natives of Borneo were peculiar, and, on examination, saw of what they were composed. Without this useful article, discovered just in time, the sea telegraph could not be employed. The son of the discoverer has lately been placed on the list of military promotions for this discovery of the father.

ILLINOIS CATTLE.—Our enthusiastic friend, Bross, of the *Chicago Press*, never loses an opportunity of speaking well of his own State, of which he is one of the most useful citizens. The following information, abridged from his paper, is worthy of record:—

"Chicago or Illinois beef will soon take as undisputed rank among the materials of good living as have the hams of Westphalia, Stilton cheese, Goshen butter, New York oysters, Lake Superior white fish, Connecticut River shad, or the wild celery-fed canvas-back ducks of the Delaware. What the savory mast of the Westphalian forest does for the flesh of the pig that feeds on it, how the white clover and sweet scented vernal grass of the rich pastures of Orange County influence the products of the dairy, so, and in some such manner, the prairies of Illinois impart fat and flavor to the flesh of the cattle raised on them.

We have been led to these observations by the arrival in Chicago, last week, of thirty noble bullocks, a part of a lot of one hundred, *en route* for New York city.

These cattle belong to Mr. B. F. Harris, an extensive stock feeder, who resides near the town of Urbana, and the Chicago branch of the Illinois Central Railroad. They are unquestionably the heaviest and fattest drove of one hundred bullocks in the world. They were weighed at Mr. Harris's farm.

The aggregate gross weight of the 100 was 118 1,200-2,000th tons, or 2,373 pounds each. Twenty-five of the best and fattest weighed on an average 2,662 pounds each. "The Baby" of twenty-five, kicked the beam at 5,876 pounds. Three days were required and needed to drive them to the railroad station, fourteen miles. The average age of the 100 is less than five years. Not one has ever been housed a day in his life; a half dozen pairs only have been yoked, and a less number worked. They have been pastured and herded on the prairies in the summer, and, in the winter, fed on corn in the shock, and sound timothy, and yarded along the skirts of the Sangamon timber."

This appears to us more sensible "talk" than that of the late French papers about the "baby" of the Empress. What would the Illinois prairie farmers say to having a boy born to drive them about as Mr. Harris drives his cattle?

THE HUNT BOTANICAL GARDEN is, for the present, not to be commenced. The chief donor wished to have an observatory, to cost some \$70,000, to which the committee objected, and, in consequence, he has withdrawn his support. The energetic determination of W. S. Degraw, Esq., and his other associates will, however, carry it through, only in another position.

THE MASSACHUSETTS HORTICULTURAL SOCIETY'S Report of Committees, for 1855, with the schedule of prizes for 1856, makes a pamphlet of 50 pages, and appears to be every way worthy of the distinguished reputation of the Society. We have marked many passages for reference, but have so devoted our space as to have little room for extracts the present month. In many respects this society is a model which might well be copied.

THE GOOSEBERRY ON THE CURRANT.—SIR: A former correspondent of the *Horticulturist*, August, 1849, made some sensation by assuring us that he had succeeded in grafting the gooseberry on the yellow flowering currant, on stocks five feet high, with a prodigious result. It would be well to inform us whether the grafts continue to do well, and the fruit is still free from mildew? I have found that keeping the roots of gooseberry bushes cool with mulching, and to plant them in cool situations, is useful, but I attribute my freedom from mildew, the past few years, to sprinkling a handful of salt around each bush in winter, or early spring.

—M. C.

[We have the same results from the use of salt.—ED.]

Dr. JOHN LINDLEY's portrait, which we insert to-day, conveys almost a speaking likeness of the botanist, about whom it is best to "gossip" but little before he completes his career. To the article, which we copy from the *Cottage Gardener*, was appended considerable abuse for certain doings of his in connection with the London Horticultural Society; this is omitted, but we may add that the doctor has little affection for America, and considers, from positive ignorance regarding it, its horticulture in a lamentable condition.* We learn, incidentally, too, that he does not take the *Horticulturist*—quite unpardonable in so great a man!

* Dr. Lindley's great merits as a botanist are somewhat obscured in the eye of an American, by his inclination for a satirical fling at this country—a national sin, belonging to a large class, among whom we are sorry to include the editor of the London *Athenæum*; the fact undoubtedly is, that America is doing more than any other country for pomology, and Dr. Lindley, it might be expected, would be the first to acknowledge it; for his own credit, this is to be regretted.

TRANSPLANTERS.—Dibbers and trowels are well-known instruments for the removal of plants of various kinds. In using the pointed or semicircular trowel, the young plants may be taken up with a considerable ball of earth attached to the roots, while they suffer no injury by the process. A more perfect mode of transplanting by the use of the trowel, is that by taking two of these, one in each hand, thrusting them down on opposite sides of the plant, at the same time drawing the handles slightly outwards; the faces of the trowels are thus made to collapse so much as to press the soil about the roots, and enable the operator to take the plant, with ball entire, from the seed-bed to its destination, and to place it in its new abode without the least check to its growth. We have figured several transplanters, which have been employed for such plants as the brassicæ, &c. Fig. 1 is called Saul's transplanter. It may be thus described: The blades are opened by pressing the lever, *a*, towards the handle, when they open outwards, and in this state are thrust into the ground, having the plant within them; a counter-pressure causes them to collapse and embrace the ball firmly, and, in this state, the instrument being drawn upwards, brings with it the plant and ball entire; it is then taken to its new place, when the handle is again pressed inwards, and the blades open and are withdrawn, leaving the ball to be filled around with earth.

Fig. 1.



Fig. 2.



Fig. 3.

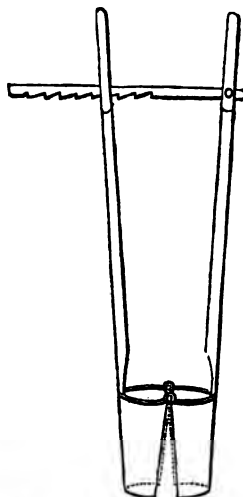


Fig. 4.



Fig. 2 shows a modification of the above instrument, wherein the blades are opened by moving the slider, *a*, upwards, and when thrust down around the plant, the blades collapse by pressing the slider downwards. The operation, afterwards, is the same as in Fig. 1.

Upon the same principle, but with much more mechanical ingenuity, is McGlashan's transplanter, Fig. 3, constructed, which is admirably adapted to such operations. These three collapse upon the ball firmly—and not only that, by their construction they embrace it tighter at the bottom than at top, rendering it next to impossible that the ball should be extracted, and, also, that it cannot slip out afterwards until relieved by the removal of the pressure upon it. All these transplanters are merely modifications of Fig. 4, long used, in France, for similar purposes. Its principle will be readily seen by the figure. The handles, *a a*, are pulled outwards when the blades are thrust into the ground. They are pressed inwards when the operation of lifting upwards is desired.

DRAINAGE.—We have, from Albany, N. Y., a pamphlet setting forth the advantages and profits of thorough drainage. It emanates from the manufacturers of tile, C. and W. McCammon, and will convince the most incredulous.

W. L. FERRIS, of Throg's Neck, Westchester Co., N. Y., has sent us a catalogue of his extensive nurseries, in which is enumerated a large collection of old and new descriptions of desirable trees, shrubs, and greenhouse plants.

NEW BRIGHTON, STATEN ISLAND, April 5, 1856.

J. JAY SMITH, Esq.—DEAR SIR: I do not wish to trespass upon your space with anything like a party controversy, but, if you will favor me with a short explanation to Mr. Hepp's strictures in your April number, it will not be repeated. I wished to keep you apprised of what was going on amongst our horticultural societies, and accordingly sent on a report of the exhibition at Brooklyn, in September. Particular attention was directed to the plans (which were publicly exhibited) for the intended botanical gardens. As regards Mr. Hepp, he had previously made me acquainted with his ideas orally, so that it did not require more than an hour's close examination to judge of its merits. It so happens, that I have had a good deal of experience with the pencil, and also in carrying such designs into execution on the ground; I was thus the better prepared to pass an opinion, and as this was a portion of the exhibition, there was no harm in mentioning it in the general report. If such things are not to be criticized, the parties presenting them should place a card upon them to that effect, or else be prepared for the result. It appears, however, that Mr. Hepp takes exception only to my inferior intellect, or, rather, as he states it, "a correct opinion of it calls for mental acquirements different from those available to the author of that article." His knowledge of my mental acquirements must surely have been judged of at a "glance;" for he has only seen me some half dozen times, and a part of those interviews were, on his own part, for the purpose of getting information. I had no ill-feeling to him in that criticism, and am sorry that he could not have replied to it in a more gentlemanly manner than by becoming both judge and jury over my humble abilities. Whether he be correct or not in his verdict, "requires more self-conceit than I would like to be possessed with to assume such unquestionable authority." No one could be more willing than I to give him credit for his abilities, so far as they go, but he has yet much to learn before he can fully comprehend the bold and majestic scenery of America, or adapt his designs to the expansive and utilitarian views of its society. *That requires the mind of a Downing.* We have already too many small notions, and when we see more of them likely to occur, it becomes a duty to speak out. Such was the case in this instance, and I would again say, with all deference, "take the hint."

It would be an easy matter to point out, before a competent committee, the "misplaced utility," and if Mr. Hepp and that committee were to look over the many credentials of merit that are in my possession, from reliable sources, not only for practical horticulture, but also in his more immediate calling, it is probable, to say the least of it, they would conclude that we are on a par; with the advantage, on my side, of some "fifteen years" more experience.

Most respectfully yours, Wm. CHORLTON.

MICHAUX AND NUTTALL'S SYLVA.—By the late disastrous fire at the Artisans' Building, in Philadelphia, the whole of the remainder of the sheets of the edition of Michaux and Nuttall's *Sylva* were destroyed. It will be immediately reprinted, but orders on hand will necessarily be temporarily delayed.

PARSONS & Co.'s NURSERIES.—We have received a valuable bundle of new evergreen, and other trees and plants, from the reliable nurseries of Parsons & Co., at Flushing, Long Island, for experimental growth. Among them we notice *Pinus Benthamiana*, a new tree, of rapid growth; *P. pumillo*; *Cunninghamia sinensis*, somewhat resembling the *Arucaria*, but more hardy; *Abies menziesii*; *Juniperus ericoides*; *Abies morinda* and *Douglasii*, &c. &c., for which they will accept our thanks.

LAWTON BLACKBERRY.—Thaddeus Davids, Esq., and Mr. Lawton, of New York, have forwarded us a large allowance of the true Blackberry. (See Mr. Lawton's Advertisement.)

NORTHERN SPY APPLE.—A box of this invaluable Apple of the Spitzenburgh family, received by express on the 15th of April, in the finest order, has placed us under obligations to Mr. James H. Watts, of Rochester, N. Y., who has a special affection for this fruit, and evidently cultivates it *con amore*. It is a fine keeper, even to June; it is now as firm as when taken from the tree, which is a great bearer, the branches weighed down to the ground with the fruit. These are the best specimens we have ever seen, and they are pronounced *very superior*. It originated near Rochester, where it seems to luxuriate. Mr. Watts may well be gratified with the results of his horticulture.

SEEDLING POTATOES.—We have received, from Daniel A. Buckley, of Williamstown, Mass., some of his Stone Hill and Chili seedling potatoes, of the value of which, for this climate, a report will in due time be made. The Stone Hills are noble fellows.

MR. EDITOR: I was delighted to see you differed a little from the resolutions of the Society, to sell Penn Squares! It reminds me of some would-be wise *savans* of the French Academy, priding themselves on having ascertained the exact nature of the crab; they submitted their definition—that it was a red fish, which walked backwards—to Cuvier, who congratulated them on its correctness, in all but three points—"that it was not a fish, nor was it red, nor did it walk backwards!" It might be easy to demonstrate that the squares, all things considered, are not diminutive, that little boys are not in danger within the railings, and that the Society, generally, would not "rejoice" to see their lungs destroyed.

A FELLOW MEMBER.

THE WEATHER ON STATEN ISLAND.—We have at last got a break-up of the late severe and protracted winter. To-day (April 5th), for the first time, we have been enabled to use the spade. *Buonymus japonica*, which has stood, without injury, for the last seven years, has become a never-green down to the snow line; Deodar cedar, almost as shabby looking, but likely to recover; Tree box has braved it finely, and is none the worse in appearance; Irish yew, with a few cedar branches to cover, is in fine condition. The flowers of *Paulownia* all killed. Peaches, to present appearance, only injured where the wood was *weakly*, or *not thoroughly ripened*. Exotic grapes, planted outside, severely injured, and some late kinds I saw the other day, in a cold graperly, were split right up. These, however, were neglected last summer, and the wood not well ripened. Some cherries are likewise split. Pears not injured where the roots have been mulched. If we can make up our minds to cease croaking, and push along, now we have good weather, it is likely that things will turn up better than expectation.

W. C.

JOHN A. and CHARLES KENNICOTT, have forwarded their "Descriptive catalogue of fruit and ornamental shrubs, cultivated at the Grove Nursery, West Northfield, Cook County, Illinois." It bears marks of their intelligence and zeal; one of their remarks we extract: "We would impress upon every tree planter the value and importance of taking some good horticultural journal, and of providing themselves with a few of the many excellent standard works on horticultural subjects." This is good advice; the prejudice against book-gardening and farming has long since been discarded, for the very good and simple reason that those who read and study surpass their more ignorant neighbors, get rich faster, but, better still, have more intelligent minds, and enjoy life a thousand times more; the amenities of life cannot be fully appreciated by the unlettered. We have no doubt, from the names attached to this catalogue, there is an intelligent neighborhood around the Kennicott Grove Nurseries.

SENSITIVE AND MOVING PLANTS.—In our notes of a Day at Kew, we omitted to notice a singular plant, of which a few specimens only were seen in this country some years ago; it is the *Desmodium gyrans*, usually called the Moving Plant, and, in Bengal, the Telegraph Plant. The movement is voluntary, not influenced by touch, only requiring a calm, warm atmosphere; it is therefore kept under a glass case. The leaves consist of three leaflets, one large, terminal one, and two small, lateral ones. The latter alone are endowed with this wonderful property. There are some or other of them always in motion, by jerks, and in circles, or gyrations, in one direction, so as to return to the same point. Well might Collinson and Bartram have given them their significative name—the *Tipitiwicheet Sensitive*.

The *Mimosa pudica* differs from the *Mimosa sensitiva*, or sensitive plant, and is more remarkable. The best way to exhibit its strongly sensitive properties of the leaves, is to cut off, suddenly and cautiously, the tip of one of the terminal leaflets, when all the other leaflets on that stalk will close, *a pair at a time*, from above downwards; thence the impulse is continued to the adjoining stalks and to the leaflets, from below upwards; and then the whole leaf will fall.

TREES FOR THE SEA-COAST.—The following are recommended, in the *Gardeners' Chronicle*, as suitable trees to plant near the sea-coast: Yew, Sycamore, Holly, Evergreen and Lucombe Oak, Spanish Chestnut, English and Turkey Oak, Elm, White Poplar; and, for shrubs, Aucuba, Tamarisk, Pontic Azalea, Hydrangea, Arbutus, Sweet Bay, the China Roses, Cotoneaster, &c.

STRAWBERRY SIR HARRY.—The French catalogue of plants and seeds of Bossin, of Paris, just received, says of the new strawberry *Sir Harry*: "This variety, which we place in our list for the first time, is, without doubt, the most beautiful and the best of all the known strawberries." It has not yet reached America that we are aware of, but doubtless will be here for the fall planting. Bossin's price is three francs each plant.

ANSWERS TO CORRESPONDENTS.—Greenhouses have been much the subject of former volumes of the *Horticulturist*. In vol. 5, pages 110 and 184, as well as elsewhere, our correspondent will find much information. It is a subject of great interest, and particularly the point he alludes to, that of cheap structures for the many. Eight and ten dollars a running foot, is about the lowest price for anything ornamental, but, for three dollars a foot, a house that will answer to protect and grow flowers, may be built. The topic shall be discussed hereafter. At present, we are overwhelmed with matter waiting admission.

(A. G. H., Wisconsin,) will find a description of a "pit" for keeping and blooming winter flowers in our last number. A more simple one also answers well for keeping plants; sink a pit, of any size you want, below the ground entirely, and line it with brick, stone, or planks; treat it just as you do a hotbed, omitting the manure at bottom. Such is the one you inquire about. Nothing could be more simple; but be sure it has a dry bottom.

(WM. H. READ, Canada West.) John Fiske Allen, of Salem, Mass., authority on the subject, says: "See Hovey's *Magazine* for Jan. 1855, page 44, for his article on Hybridizing the Grape; turn also to his book on the Grape, pages 149, 150, 151, 3d edition, and you will find a plan to save the pollen for impregnation—the only practical one, I think; the pollen, if kept in tin or glass, from the air, and in a dry place, will keep good a year." Mr. Allen is about to introduce to the public some of the results of his praiseworthy efforts, but sufficient plants have not yet been grown to offer them the present spring.

(HENRY SHELTON.) The Golden Hamburgh Grape is quite new in England, and is sold at a high price. It has not been received in this country yet.

(A. J. CAYWOOD, Modena.) We have no connection, and never had, with any commercial nursery.

(C.) Consult "Parsons on the Rose," and use good manure, plenty of sun, and keep the roots in a soil that will not retain water too long.

(J. D. INGERSOLL, Illion.) We are not aware of any gardener who possesses the seedling grapes you name.

(J. POWELL, Dayton, Ohio.) Your kind notice came too late, and is now out of season.

A CONSTANT READER AND SUBSCRIBER, BALTIMORE, will find the information he wants in the *Encyclopædias*.

CARLEISLE, KY.—DEAR SIR: I received your *Horticulturist*, and I am so highly pleased with its contents, beauty, and value, that I feel disposed to exert my influence in its favor. This locality is proverbially the most fertile and wealthy in Kentucky, and particularly adapted to the cultivation of fruit. No place can be found where the apple, grape, and peach, grow more luxuriantly than in this State, or where the fruit is produced more perfect. We frequently escape the late spring frosts; when further north, they are very destructive to the early blooming kinds. The peach here attains its largest size and highest flavor, but, owing to its vigorous growth, the tree is not long lived. With all the natural advantages possessed by the owners of the soil for the profitable culture of fruit, comparatively little attention is paid to it; they are suffering from neglect; in this they could greatly add to their yearly profits, to themselves, families, and neighbors. Our farmers are intelligent and enterprising, and ready to embark in anything that will pay. It must be that they are uninformed upon the subject of the profits and importance of fruit culture, and the superior excellence of the new articles in comparison with the old familiar kinds. It is the want of information on the subject, I am assured, from the following circumstance: Last fall, I mentioned to a few friends that I had some trees sent to me for sale. I soon had orders amounting to over 400, and I have orders for spring for more than 1,000, and, I think, the circulation of your interesting and valuable work will much increase this year. WILLIAM DUNK.

WASTE STEAM.—MR. EDITOR: I was very glad to see your notice, in a late number, respecting waste steam. How many steam-engines we have in Philadelphia (some estimate them as high as six hundred, within the limits of the pavements), which are continually throwing away, into the air, an amount of heat and moisture sufficient to supply luxuries to the whole population. By depositing this heat in beds of stone, &c., for night warmth, every owner of a steam engine might grow his own grapes, pine-apples, &c. Even suppose he had his graperies in the garret of his factory! A few windows in the roof, easily constructed, would give sun and light, and the steam, under control of a valve, could be injected with perfect ease, without costing an additional copper. It might, too, be led by small, inexpensive pipes, to considerable distances, instead of being jetted out into the blue vault of the

sky. Some wisecracker has suggested, that by going to the coal mines with plenty of sashes, we could grow grapes, and other forced fruits, with comparatively no expense of fuel. Why not grow them where they are to be sold, close to a market, by using this waste matter, within the reach of everybody who has steam-works near him? The suggestion is most important. I am now treating for the waste steam of a neighbor, to be brought under ground 800 feet.

PHILADELPHUS.

THE DIOSCOREA.—The following is an extract of a letter to the Committee of Patents from W. D. Brackenridge, late public gardener in Washington, and formerly of the U. S. Exploring Expedition, residing at present at Govanstown, near Baltimore, Maryland: "The two small tubers of *Dioscorea batatas* which you gave me last spring, I started in a hotbed, and planted them out about the middle of May, in a deep, yellow, loamy soil. About the middle of November I dug the roots, and found two of them over two feet in length, and four inches in circumference. Next season I intend to plant these roots and the small tubers propagated from the leaves, and allow them to remain in the ground during next winter, as I think, in a second year, they will attain a large size, after protecting them from frost by covering with straw or leaves." So says the *Country Gentleman*. Mr. H. A. Dreer, of this city, has received a supply of this plant from France, of his own importation.

GRAFTING.—Dr. Lindley lately delivered a lecture on grafting before the Horticultural Society of London; the following are the conclusions arrived at: 1. A scion will always form a perfect and permanent union with its stock, if both are from the same individual. 2. A scion will generally form a perfect and permanent union with its stock, if one is a mere variety of the other. 3. A durable, but not permanent union, may be effected when one species of a genus is worked on another species. 4. No union, either durable or permanent, can be expected when stock and scion are widely different. 5. Bad workmanship will render any kind of grafting perishable. Grafted plants, then, are not necessarily worse than seedlings.

AUCTIONS.—*Wife*. "Well, now, as sure as I'm alive, husband, you've been to auction and brought a pack of cinnamon roses home, and I have had a man digging half a day to get the pests out of my garden. Do throw them right into the street."—*Husband*. "Why here's the list, *Viburnum opulus*, and the *Symphora racemosa*, and the *Philadelphus coronarius*, and *Syringa vulgaris*, and I'm sure."—*Wife*. "Pshaw! You've paid away your money for a pretty parcel of Latin names. I don't care what you call them, but they are nothing but our old-fashioned syringas and lilacs, and snowballs, and waxberries." Alas, out of thirty dollars' worth, the poor wife got a few new plants that she might have purchased of an honest florist for two dollars. We are now in the vernal season of auctions.

THE WEATHER IN ENGLAND.—We have had the coldest winter, in England, during 1855, since 1784, the years 1795 and 1814 not excepted, and great injury has been done.

W. S. ASHON, near Liverpool.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The stated meeting of this Society was held at Concert Hall, on Tuesday evening, March 18, 1856. Gen. Patterson, President, in the chair. Premiums were awarded by the Committee on Plants and Flowers.

Asalea, Specimen Plant—for the best, and for the second best, to John Pollock, gr. to James Dundas. *Azalea*—for the best six to Thos. Robertson, gr. to B. A. Fahnestock; for the second best to Robert Buist. *Collection of twelve Plants*—for the best to Thos. Robertson; for the second best to Chas. Sutherland, gr. to John Anspach. *Collection of six Plants*—for the best to J. J. Habermehl, gr. to John Lambert. *Specimen Plant*—for the best, the *Chorosema varium*, to Isaac Collins, gr. to Gen. Patterson; for the second best to John Pollock. *New Plants*—two dollars to Robert Buist, two dollars to Mark Hill, and one dollar each to John Pollock and Thos. Robertson. *Table Design*—for the best to B. Higgins, gr. to D. R. King. *Basket*—for the best to J. J. Habermehl, and for the second best to B. Higgins. *Bouquets*—for the best pair to J. J. Habermehl, and for the second best to B. Higgins.

Special Premiums.—Five dollars for a fine display of Hyacinths, in vases, to Peter Raabe; four dollars to John Pollock, for a collection of a dozen of Roses; five dollars to Robert Buist, for a fine seedling Camellia; two dollars, for a collection of twelve Plants, to Mark Hill; two dollars, for a fine collection of Cinerarias, to James Thomas, gr. to J. D. Whetham; one dollar, for a collection of stocks, to the same; and one dollar, for a collection of Cinerarias, to J. J. Habermehl.

By the Committee on Fruits. *Pears*—for the best twelve specimens, the *Easter Beurré*, to John Chambers,

near Mount Holly, N. J. They notice a jar of extraordinarily large Strawberries, preserved in alcohol, shown by Saml. Wagner.

By the Committee on Vegetables. *Mushrooms*—for the best to B. Higgins. *Display*—for the second best, by an amateur gardener; to Mark Hill, gr. to M. W. Baldwin. *Special Premiums*—two dollars to Chas. Sutherland, for a neat display of Cucumbers, Tomatoes, and Beans; one dollar, for a brace of fine Cucumbers, to Wm. Bright, gr. to Joseph S. Lovering.

On motion, ordered that a committee of five be appointed to confer with a committee of the City Councils on the subject of laying out and planting the trees in Hunting Park Square.

Five gentlemen were elected resident members.

OBJECTS EXHIBITED NOT BEFORE MENTIONED.—*Plants* by B. A. Fahnestock's gr.: *New Puya Allenstrinli*, *Daphne Fortunii*, and *Camellia*, Mrs. Lurman. Collection of twelve—*Bletia Tankervillea*, *Correa speciosa*, *Acacia undulata*, *Euphorbia canescens*, *Centradenia rosea*, *Pultanea subumbellata*, *Camellia Lowel*, *Fagatella bituminosa*, *Franciscea confertiflora*, *Azalea sp.*, *Mahernia odorata*, and *Chorozema varium* and six *Azaleas*.

By Robert Bulst.—*New Hexacentris mysoriensis*, *Tetanthura ericoides*, Seedling *Petunia*, and Seedling *Camellias*. Twelve plants—*Correa speciosa ventricosa*, *Eriostomum pulchellum*, *Acacia pulchella*, *Cyclamen persicum*, *Pelargonium Kingsbury pet.*, P. flower of the day, *Chorozema macrophyllum*, *Tropaeolum Lily Schmidt*, P. tricolorum, *Centradenia floribunda*, *Rhapheolepis indica*, and *Dendrobium Wallichii*. Specimen—*Mahernia odorata*, and six *Azaleas*.

By John Anspach's gr., collection of twelve—*Azalea indica alba*, *A. phoenicea*, *A. hybrida*, *Mahernia odorata*, *Begonia manicata*, *B. nitida*, *Franciscea confertiflora*, *Centradenia rosea*, *C. floribunda*, *Chorozema varium*, *Bletia Tankervillea*, and *Conoclinium lanthum*.

From James Dundas's collection.—*New Petratheca ericoides*, *Rhododendron jasminodes*, *Azalea Apollo*, *A. magnifica*, *A. extranli*, *Saccolobium macranthemum*; two Orchids—*Phalanopsis grandiflora* and *Oncidium flexuosum*. Collection of twelve—*Azalea indica alba*, *Chorozema varium*, *Kennedyia macrophylla*, *K. racemosa*, *Begonia Laperousii*, *B. nitida*, *B. manicata*, *Thyracanthus rutilans*, *Gardenia Stanleyana*, *Deutzia gracilis*, and *Conoclinium lanthum*. Specimen—*Azaleas*, *A. indica alba* and *A. Phoenicea elegans*. Specimen Plant—*Chorozema varium*, and a collection of twelve *Roses*.

From M. W. Baldwin's collection.—*New Cytisus superba*, *C. elegans*, *Churanthera linearis*. Twelve—*Azalea indica*, *A. phoenicea*, *A. alba*, *A. variegata* (Craig's), *A. Duke of Wellington*, *A. Williamsii*, *A. Hertsi superba*, *Polygala Dalmasiana*, *Conoclinium lanthum*, *Mahernia odorata*, *Bletia Sheppardii*, *Cineraria climax*, and *Eriostomum nereifolium*.

By D. E. King's gr.—*Bignonia capreolata*, *Boronia viminea*, *Conoclinium lanthum*, *Franciscea eximia*, *Burchellia capensis*, and *Petroa volubilis*. Specimen—*Camellia myrtifolia*.

By John Lambert's gr.—*Begonia semperflorens*, *B. sanguinea*, *Mahernia odorata*, *Pentas carnea*, *Hypericum sp.* and *Pelargonium macrostema*, and a display of *Cinerarias*.

By J. D. Whetham's gr. Specimen—*Tropaeolum tricolorum*, a collection of *Cinerarias*, and another of stocks.

By Gen. Patterson's gr. Specimen—*Chorozema varium* and *Dendrobium nobilis*.

By N. A. Smith.—Two baskets of growing *Hyacinths*, &c.

Designs, Bouquets, &c.—By D. E. King's gr.—A handsome table design, a basket, and a pair of bouquets.

By J. Lambert's.—A basket, and a pair of bouquets.

By M. W. Baldwin's.—A basket.

Fruit.—By John Chambers. Easter Beurre Pears.

Vegetables.—By M. W. Baldwin's gr. A small display.

By D. E. King's.—*Mushrooms*.

By J. Anspach's gr.—*Cucumbers*, *Beans*, and *Tomatoes*.

By Jos. S. Lovering's gr.—*Cucumbers*.

HARTFORD COUNTY (CONN.) HORTICULTURAL SOCIETY.—At the annual meeting of the Hartford Co. Horticultural Society, held on the 12th of April, 1866, the following officers were elected for the ensuing year, viz: *President*—WILLIAM W. TURNER. *Vice-Presidents*—JOHN M. NILES, JOHN S. BUTLER, HENRY W. PERRY, Hartford; HENRY MYGATT, Farmington; CHARLES L. POSTER, East Hartford; NOAH W. STANLEY, New Britain; NORMAN PORTER, Berlin; E. A. HOLCOMB, Granby; SALMON LYMAN, Manchester; E. D. CASE, Canton; H. A. GRANT, Enfield. *Recording Secretary*—DANIEL S. DEWEY, Hartford. *Corresponding Secretary*—THOMAS R. DUTTON, Hartford. *Treasurer*—P. D. STILLMAN. *Auditor*—H. S. BIDWELL. *Standing Committee*—WM. F. TUTTLE, H. W. PERRY, and EDWARD GOODBRIDGE.

Calendar of Operations.

MAY.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—As soon as crops appear above ground, the soil should be carefully stirred around them. This is one of the advantages derived from drill culture, and a very important one it is during dry seasons. The deeper the ground is loosened, the better will it support vegetation; the loose ground on the surface acts as a mulching, and prevents the rapid evaporation of the moisture from below. The air is also allowed unimpeded access to the roots, facilitating those electro-chemical changes upon which the growth of plants so much depends. The most useful implement for this operation is the Dutch, or scuffle hoe; in using it, there is no occasion to tread on the loose ground. Heavy summer showers more or less consolidate the surface of all soils; surface stirring should therefore follow immediately after rains, and never allow weeds to gain sufficient headway to suggest the use of the hoe, but let the cleanliness and freedom from weeds be a consequence of repeated surface cultivation.

In planting Lima beans, guard against deep covering; if the ground is prepared as suggested last month, they may be simply pressed under the surface with the hand; there is

sometimes no small difficulty in getting a good start, with this crop, in close soils. The principal sowings of parsnip, long beet, and orange carrot, if not already down, should receive early attention.

Towards the end of the month, sow a few seeds of Walcheren cauliflower, to come in for fall and early winter use.

Flat Dutch cabbage, and curled Savoy seed, should also be sown at once for winter crops.

Celery should be sown for main crops; choose enriched, friable soil, and mulch lightly with manure, and water occasionally in dry weather.

Young asparagus plantations should be mulched between the rows, and an occasional watering with salted water will be beneficial; two ounces of salt to a gallon of water will form a sufficiently strong solution.

Sweet corn, summer squash, and vegetable marrows, may be planted at intervals of two or three weeks, if a constant supply of tender vegetables is anticipated.

Peas, tomatoes, &c., may be hastened to maturity by pinching out the points of the plants, checking growth will induce a tendency to early fruiting.

In transplanting, always puddle the roots in a mortar of soil and water, unless the weather is dull and showery.

Sweet potatoes may be raised to tolerable perfection, even in strong, loamy soil, by throwing the ground into small mounds twelve or fourteen inches high, and inserting the plants on the extreme top of the mound. Plants may be obtained in quantity by placing a few roots in a hotbed, and cut out the young shoots when three or four inches grown; three such plants should be planted in a triangle on each hill.

HARDY FRUIT.—In connection with the writing of these calendars, we have had various inquiries in regard to the proper extent of enriching soil for fruit-trees. Trees that were originally planted in rich compost, and have annually been liberally treated with manure, are, after nine years, still growing vigorously, but showing little or no disposition to fruit. This result is quite in accordance with experience. Trees have their periods of youth, maturity, and old age. When young, and growing with vigor, or, if this vigor is upheld with high culture, the wood-producing force is alone excited; and if, in addition to this, they are annually curtailed of the strong shoots by pruning, in winter, it further increases the preponderance of the roots over the branches. There are various expedients practically resorted to with the view of checking wood growth. Grafting on a slow growing stock, which will naturally afford a less supply of sap than the graft would otherwise take up; digging round the roots, and cutting through the strongest of them; ringing, or cutting out a small piece of bark round the stem; tying the branches to a horizontal, or even a pendent position, are means which have long ago been practised to attain this object. The true method of deriving benefit from manuring fruit trees was not, then, as it is but imperfectly, even now, understood. That is, by judicious and skilful *summer pruning*. Equalizing the sap, and preventing the development of luxurious shoots, must receive attention during growth. The most vigorous growing shoot will be effectually checked by simply breaking out the point. It is perfectly possible to train trees in any desired shape, and keep them in a healthy and constantly productive state, without the use of a knife, or any instrument sharper than the finger and thumb. This subject will come under consideration again.

STRAWBERRIES.—Hoe between the rows, and cover with a mulching, either of straw, tan bark, or short grass; anything that will keep the fruit clean; a thorough watering will be of great use after the first flowers are set to fruit.

GOOSEBERRIES.—Mildew may be prevented, by watering with soapsuds, over the branches. A radical cure for this pest may be formed by mixing a peck of lime, and a pound of sulphur, in 10 gallons of water; let it stand and settle. A pint, in 4 gallons of water, syringed over the bushes when the fruit is forming, will keep them clean; cover the ground with manure, and spread a small quantity of salt over it, to keep as much moisture as possible about the roots.

Figs should be uncovered; this fruit is much neglected; planted in rather poor, well drained soil, laid down and covered during winter, they are usually very productive.

GRAPES.—Rub off all superfluous shoots as soon as the strongest can be ascertained. In consequence of the extreme severity of the winter, much of the young wood is killed. Young vines, that ripened their wood imperfectly last season, are most likely to suffer in this way. Such shoots require to be cut back to a sound and healthy part. Even though only injured slightly, they require cutting down, as such unhealthy shoots spread disease over the whole plant.

GRAPERY.—In well-drained borders (and all vine borders should be well drained), thorough applications of rain water should be given at intervals of ten or twelve days, if the weather

continue dry and clear. This is independent of the daily sprinkling necessary on the floor and paths of the house, to charge the atmosphere with moisture. Air regularly, but gradually; nothing can be more injurious than sudden checks, produced by a hasty opening of the ventilators; a fearful source of mildew. Towards the end of the month leave the top sashes open all night, and allow the temperature to fluctuate in a similar manner as the external atmosphere. There is no climate in the world where the temperature is constantly the same. Disbudding, and tying up the young shoots, will be the principal requirements. A slight syringing when in flower, helps to thin, or, rather, prevents the thick setting of the berries; of course, it must be done cautiously.

GREENHOUSE.—The top sashes may now be lowered day and night, unless heavy rains, or very strong winds prevail. Shading will now be requisite. An awning mounted on rollers is the most complete method. Washing the glass with whitewash, or painting with boiled oil and litharge, saves trouble, but the continued shade is not always desirable. The syringe may be used freely in distributing water over the house, and also those plants not in flower. Guard against currents of dry air sweeping over the plants, by ventilating only by the top openings. A shaded, moist atmosphere is most congenial to the majority of summer flowering plants.

Pelargoniums will still be flowering; pick off all decayed flowers, and gradually withhold water as they cease growing. Save seed from the best varieties. They ripen seed most perfectly out of doors, in a full exposure to sun.

Camellias and *Azaleas* may be withdrawn from the house as they finish growth; plunge the pots in tan bark or ashes. Greenhouse plants are much injured by exposing the pots to sun and wind.

HEATHS.—*Epacris*, and similar hard-wooded kinds, are better in the house during the summer months, unless under skilful management. The great point is to get the growths properly hardened and fitted for thorough exposure; then they will stand the fiercest sun without injury. In their natural habitats, they are subjected for months to parching sun and intense aridity. The nearer we can imitate nature, the more likelihood of success. Young plants may be kept in a steady growing condition, by repotting when necessary, and keeping them in a moist shady position.

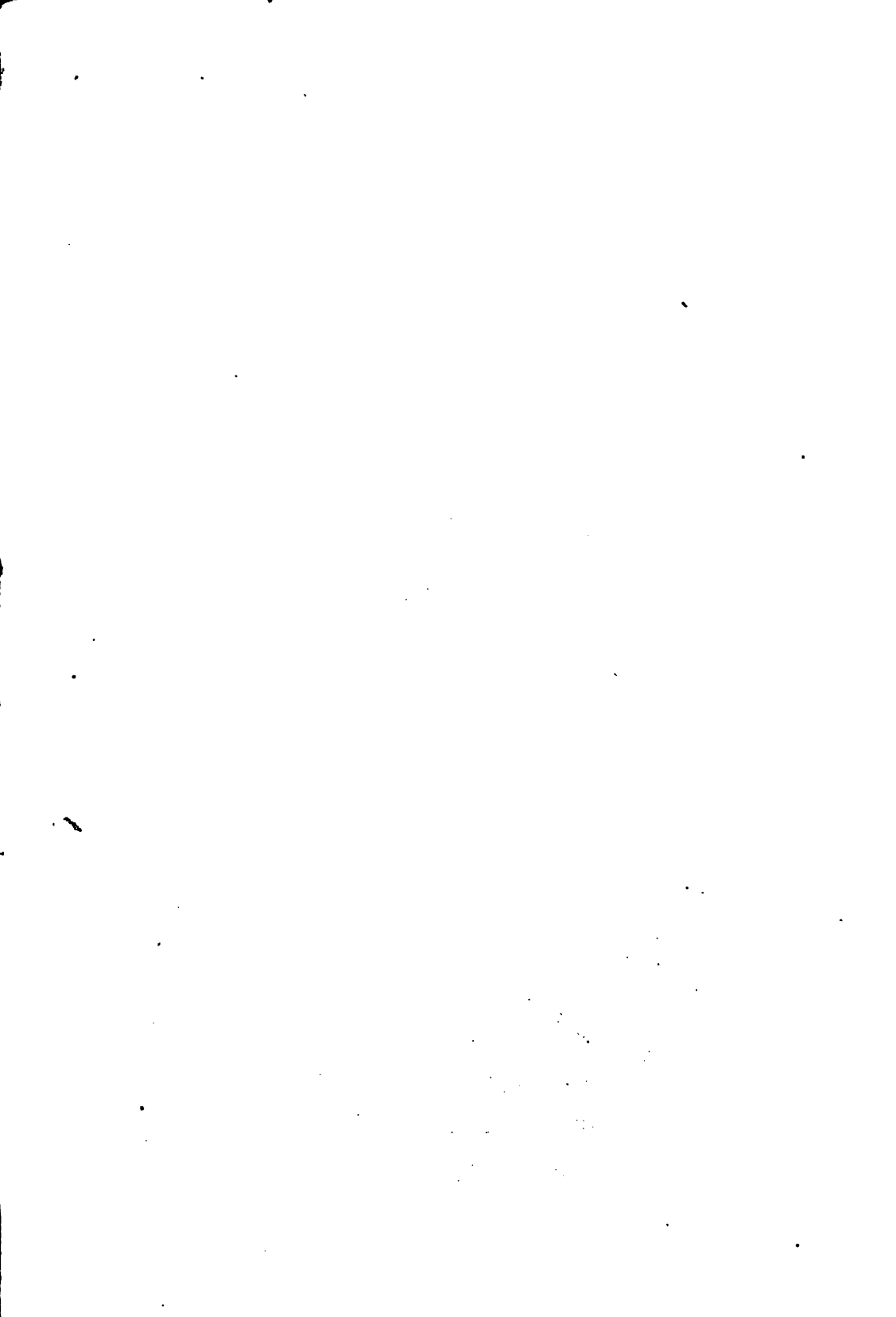
Cacti will require liberal watering while making growth; see that the soil is well drained.

Achenes, *Gloxinias*, *Clerodendrons*, *Begonias*, *Fuchsias*, and other plants, for summer blooming, should be repotted as they require it, and attend in time to staking, pinching the shoots, &c., to form well-shaped plants. There is no beauty in plants that are grown tall and weak, and no surer indication of unskilful management.

FLOWER GARDEN.—*Dahlias*, *heliotropes*, *balsams*, and other tender plants, should be left under cover until the middle of the month. The hardier kinds may be planted out at once. In planting geometrical flower gardens, it has been usual to fill each bed with a separate kind of plant. When properly carried out, the effect is good. Where the beds are irregular, a better effect is produced by introducing several species, for instance a centre of scarlet *pelargoniums* may be surrounded with white *verbenas*. Blue *salvias* and the yellow *Oenothera*, *heliotropes*, and *petunias*, form good combinations. Beds of white roses are heightened in beauty when carpeted with scarlet *verbenas*. Much taste may be displayed in contrasting colors, and arranging plants with reference to height, shape, and color. These *mental preliminaries* should receive attention, and be decided upon previous to commencing active operations. *Chrysanthemum* cuttings may be rooted readily at this season; they will come into flower for greenhouse and conservatory decoration in the fall.

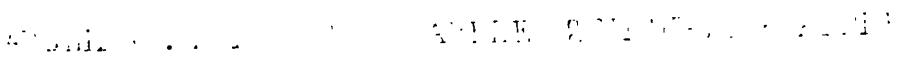
Lawns must be frequently mown to look well; rake the cut grass quite clean. A hard broom will answer for small plots. In more extensive places, the patent grass or daisy rake, is indispensable. Cut early in the morning, when there is copious dew, and clean up immediately, if you wish to economize labor. A smooth, green lawn suggests repose and quiet; all necessary labor, in keeping, should therefore be performed in the most expeditious manner.

PLEASURE GROUNDS.—Evergreens may be yet planted. The past winter has abridged our list of hardy sorts. *Euonymus Japonica* is done brown; that graceful plant, the *Deodar cedar* has also been sorely tried. It cannot be serviceable when a permanent evergreen tree is desired. We must confide in our well-tried and trustworthy friends, the *Norway* and *hemlock spruce*, white pine, *Bhotan pine*, *Scotch* and *Austrian firs*, *arbor vitæ*, *balsam*, and *silver firs*, and the *red cedar*. Prune out all dead wood at once; many plants that appear hurt, have their buds uninjured, therefore it may be necessary to proceed with caution until growth commences. The remarks of last month on this head are still in season.





CAROLINA WINTER QUEEN APPLE. 2, NICKAJACK APPLE N.C.



Gentleman Farming.



OR any useful purpose, the old books on farming are rarely resorted to ; new theories, new modes, and new machines, are the order of the day ; and yet, there is an amount of curious information, and facts incidental to all human labor, in some of the older writers, that should not be lost sight of. The very best book on the subject of farming in America, was published in 1825, after the death of the author, Mr. John Lorain, who occupied a farm only a few miles from our own residence. He was an enthusiast, and sufficiently scientific to master all the theories then in vogue, some of which he was instrumental in disproving. His chapters on "Gentleman Farming" are so quaint, apt, and amusing, that we propose to devote a short space to a brief notice of his own experience.

Poets, with other writers, attribute to rural pursuits all the rational pleasures which constitute the chief happiness of man ; but they appear to have forgotten that these beautiful scenes which they so elegantly describe, are the effect of immense labor and fatigue :—

"The bard who wrote
The shilly trash of brushing dew away
To see the sun rise, hardly knew, I fancy,
What dew was made of, or the vile effect
That frequent soaking bath upon shoe leather."

These city gentlemen forget that agriculture, when properly pursued, under the most favorable circumstances, requires very great attention, both early and late, and that there are very few employments which have more crosses, losses, and disappointments, necessarily attached to them. An epidemic sometimes sweeps off live stock, as with the besom of destruction ; mildew, smut, with numerous blights, excessive rains, storms, a scorching sun, drought, untimely nipping frosts, and insects as destructive as an invading army, destroy the farmers' most flattering expectations.

The gentleman commences his occupation with the information, perhaps obtained from books, that full-bred farmers do not generally manage their agricultural concerns anything like so advantageously as might be done ; the farm is bought without duly observing that the different opinions of authors give contradictory theories ; he has to learn, from his own practice, which is right, or whether the whole of them may not be essentially wrong. What that experience usually is, Mr. Lorain tells us some of the incidents.

The fish-pond and the icehouse have been constructed after all the details of the alterations and enlargements of house and barn are complete ; the garden is greatly added to ; exotic trees are introduced ; the gravel is hauled six or eight miles ; besides the pleasure of seeing, displaying, and using, the rare products of

nature, it is probable that the gentleman has been led to believe, from observing that the nurserymen obtain very high prices, that his gardener and market man may readily dispose of the increase arising from the original stock to considerable advantage.

Let us see him, now, with his summer-houses built, his lawn nicely sodded, the old orchard that used to supply his predecessor, uprooted, and planted with new fruit-trees, and every new implement of husbandry procured ; these his workmen do not, probably, know how to use, and having a mortal enmity to novel implements, too often purposely break and destroy ; he has purchased plenty of working horses and oxen, of the best quality, and most exorbitant price ; he is determined to excel in the first cattle show, and cost is no consideration. How he will rejoice to see his name in the Report, as having carried off the first premiums ! But his fine, stately cows are carelessly milked, and become dry before the time of the Fair ; he has the mortification, instead of selling butter and cheese, of depending on the plain, practical farmers around him, for more than half the year, and his cheese, if any happen to be made, is never fit to appear at his own table.

Manure, he knows, is an important element, and his carts are employed in bringing large quantities from the city, where he pays a high price—for straw ! His manure, owing to his own ignorance, costs him twice that of the practical farmer, who purchases it himself. When riding from a city, and we ask whose is that cart filled with long straw dung, we generally find it belongs to some "gentleman farmer."

All the alterations are completed ; the army of masons, carpenters, painters, plumbers, and all who have waited on them, are dismissed ; the gardeners, temporarily employed, are gone also, after the vast number of trees, shrubs, bushes, vines, flowers, and small fruits, are in the ground ; the fence-makers, blasters, ditchers, ploughmen, carters, and laborers, necessary to get the place in elegant condition for the wife to see and admire, with their wanton waste, depredation, and idleness, that usually take place on such occasions, are gone. The family is moved from town, and a short scene of rural delight really ensues. Tom has a pony, and Louisa a cob ; father and mother live over their bright expectations, till Tom is thrown and breaks a leg, and Louisa declares she never will mount a horse again. These two grain-eaters are to be sold, but will not bring half price ! How odd ! The owner begins to suspect he has expended, in useless brick and useless mortar, in ornamental buildings, and animals, an amount that was scarcely justifiable. But he says nothing of this to his wife. She, poor lady, finds the neighbors have little sympathy for her ways, and she begins to think that all the useless toys, only fit to divert little minds, have been collected at too great a cost ; but she says nothing of this to her husband.

The gentleman farmer now believes it is time to get some returns for his vast outlay. He has known, from experience, that country products command high prices, especially when they consist of an early supply of such articles as the seasons, with good management, produce ; that many living in the vicinity of cities

had, from small beginnings, amassed considerable estates in that way. Expensive preparations are made for marketing, but, unfortunately, he forgets that people who got rich in this mode, go with these articles to market themselves; are acquainted with the business, and, if anything is left after the usual hour of sale, they know the dealer it will suit, and how to obtain the best price for it. The farmer returns to his work as soon as market is over; his wife and children are busily employed in the gardens, or field, and their presence and example keep his laborers at work while he is from home. The gentleman is very differently situated; everything is hired, and the examples set by one or another are exactly calculated to promote idleness, chicanery, and fraud. However, a beginning is to be made, and his golden project is commenced.

He hires a man, who, he is told, is well calculated to drive the wagon, and sell what may be sent to town. Being now, as he believes, completely fixed, a well assorted load is ordered, and the man is to start early the ensuing morning. This finds employment for the market-man, and several other laborers, the whole afternoon; for, after the vegetables, fruit, &c., have been gathered, they must be properly arranged for sale, and the people take care not to hurry themselves in this tedious employment. In fact, the gathering and fixing alone too often cost the gentleman more money than he receives for the whole load. But the market-man has overslept himself, and before he gets cleverly settled in market, the industrious common farmer is gearing up to go home; of course, the gentleman's load hangs heavy on hand; this is soon observed by some keen-eyed huckster, who, at a proper time, makes a bid for the whole. As no purchaser had for a long time appeared, the bargain is closed, and the salesman starts for the farm. The gentleman is astonished when he sums up the scanty returns; but the market-man gives ingenious reasons why it so happened, taking care to keep the real cause out of sight; and, as he rises earlier the next trip, his returns are better, though far below his employer's expectations. Thus the business generally goes on, sometimes better, and sometimes worse, till the expected golden shower is arrested. The market-man is tempted to the tavern; the horses are left standing at the door; hunger induces them to move off. The man returns at twelve at night, and informs his employer that he stopped at a *friend's house* on the road; that the horses had run off with the wagon, and he could neither find nor hear anything of them. All the men on the farm are immediately mounted, and sent off in different directions, but the team is not found till the middle of the ensuing day, with the wagon fastened between two trees. Such was Mr. Lorain's own experience.

This is a melancholy picture, too often realized by persons unused to farming; if the purse is able to bear such results, it is not so bad as where a deficiency, caused by unforeseen expenses in building and improvements, is expected to be made up by profitable sales.

The better plan is to begin moderately, with a moderate-sized farm, to study the subject a little before incurring heavy outlays, and to make improvements by de-

grees. Happiness does not consist in costly elegance ; neatness, comfort in each department, will be first sought by a well-balanced mind ; the errors we have only glanced at, it will be easy to avoid when they are pointed out in a friendly spirit ; it should be the duty of friends to prevent the waste we have alluded to, by showing to the incipient city farmer, that the expenses about to be incurred may be so great as to prevent the enjoyment of the place after his death, by those for whom, probably, he had hoped he was preparing it ; and even where this is not the case, he may assemble so many niceties, and expensive arrangements, that no widow, however wealthy, would choose to be burdened with maintaining them. As a looker-on, during many years of prosperity among our mercantile and professional friends, we have observed numerous instances of this mistaken policy which confounds expense with happiness, and have too often seen the great establishment abandoned, in disgust at *gentleman farming*.

After all, the true thing for the country is *country life* ; city habits, and city furniture, late hours, and large parties, with accompanying headaches, do not prepare the mind to enjoy the song of the robin and the oriole. Sunday quiet, exchanged for a rush of city acquaintance, with their horses to be entertained as well as themselves, are not very acceptable to your cook and ostler ; while a few congenial minds to pass a week, more or less, with you in quiet intercourse, is the *summum bonum* of retired leisure. It will not do to calculate, for the country, on too much enjoyment being crowded into a small space of time, for there, as elsewhere, it is not to be found. Repose, and contemplation on the duties of man's existence here, moderate work, study, and a daily effort to promote the happiness of others, will give more real satisfaction than large mirrors, and a service of gold.

BIOTA ORIENTALIS, BIOTA PYRAMIDALIS, AND TAXUS ADPRESSA.

TRANSLATED FROM THE REVUE HORTICOLE.

My object in publishing this brief article is to clearly establish the difference existing between two species, which, although perfectly distinct, have often been confounded with each other, or regarded merely as varieties. Their frequent culture from the seed during a long series of years, proves this to be the case. M. Trove has long since established this fact. The drawing and accurate description of it given by him in the memoir of the Academy of Naples,¹ under the name of *Thuia pyramidalis*, leave, in my mind, no doubt upon the subject.

One of the species, now under consideration, the *Biota orientalis* (Fig. 1), commonly called the Chinese Thuia, is that generally used in the construction of a blind or screen, as well as, in our cemeteries, to take the place of the cypress. Its straight branches, its numerous and compact ramules, arranged in the shape

¹ Mem. Acad. Nesp., 35, tom. 3.

of a palm-leaf, or a fan, clearly distinguish it from the following (Fig. 2), which the gardeners, in France, generally designate under the name of *Thuia Nepalensis*, or *T. tatarica*; the latter is much more bushy; its branches, although numerous, and straight, are furnished with delicate ramules, more elongated and divaricated than the former, imparting to it a peculiar and distinctive appearance.

Independently of this very different aspect, the shape of the cones will not permit us to confound it with the *Biota orientalis* (Fig. 1), in which each scale of the cone, which is regular, presents a point or straight prolongation, either slightly curved at its apex, and gibbous, or somewhat dilated and enlarged at its base. In the *Biota pyramidalis* (Fig. 2), on the contrary, the scales of the cones, which are irregular, are furnished, toward the apex, with a long, subcylindrical point, curved at its extremity. The drawing of the ramules, accompanying the cones in the two species, exhibits the difference much more clearly than any written description.



We will avail ourselves of this opportunity to justify the name of *Biota*, and recommend it to our brethren instead of that of *Thuia*; for, if too great subdivision is wrong, too great generalization is equally so; on the one hand, objects which are closely suited, are too widely separated; and, on the other, those which have no affinity are included in the same class.

In the first place, the *Biota* is a native of the Old Hemisphere, while the *Thuia*, properly so-called, has reached us from the New World; no exception to this geographical distribution is as yet known. In the *Biota*, the cones, which are large and subglobular, are formed of thick and woody scales, having, at their base, seeds which are almost osseous, and ovoid, rounded, or subconical, sometimes slightly compressed, and entirely unfurnished with wings. In the *Thuia* (*T. occidentalis*), on the contrary, the cones are small, oblong, or subcylindrically elongated, slightly thickened toward the middle, and formed of very thin, cartilaginous, and cork-like scales, having, at their base, very delicate, compressed seeds, of cartilaginous consistence, always provided with a membranous, and nearly transparent wing. By contrasting the two genera, their characteristic marks will be more apparent.

BIOTA.

Habitat.—The Old Hemisphere.

Cones.—Subglobular, with thick scales, ligneous at maturity.

Seeds.—Ovoid, or conical, or scarcely compressed, hard, always unfurnished with wings.

THUJA.

Habitat.—The New World.

Cones.—Elongated, subcylindrical, with thin, dry, and almost cork-like scales.

Seeds.—Slightly compressed, almost cork-like, always furnished with a membranous wing.

Lastly, if we compare the characteristics of vegetation, we shall find that the species of these two genera are very readily classified, and that botanists were correct in separating them generically.

Fig. 3.



Fructification is, undoubtedly, the most important of all characters in establishing the generic differences of plants, and that which leads to a most exact and critical classification. The *Taxus adpressa* (Fig. 3) is a manifest proof of the truth of this remark. Considered by some as belonging to the genus *Cephalotaxus*, and, by others, as a *Taxus*, it, in this way, wandered between two genera, although intelligent horticulturists had practically recognized its relations with the common yew, of which, perhaps, it is only a peculiar form. This degree of affinity, or parentage, had been developed by engrafting. In fact, when the *Cephalotaxus* is engrafted on the *Taxus*, it either does not take, or if it does, languishes, and lives but a short time. But, if this pretended *Cephalotaxus* is inserted in a yew, it takes readily, and may flourish for years. This mark of organic affinity refers it most evidently to the *Taxus*, and the accompanying

figure leaves no doubt on the subject; the *Cephalotaxus adpressa* of our nurseries should, therefore, most certainly bear the name of *Taxus*.

CARRIÈRE.

THE LOVE OF NATURE.

BY C. L. SPENCER.

BEAUTIFUL sentiments, expressed in fitting language, take a strong hold upon the heart, and are never entirely obliterated from the memory. The opening lines of our own Bryant's *Thanatopsis*, beautiful and truthful, as every lover of nature must acknowledge, furnish food for cheerful thought and heart-ennobling reflection:—

“To him who in the love of nature holds
Communion with her visible forms,
She speaks a various language.”

Yes, nature speaks to the heart of man in a language which cannot be misunderstood. At every season, and in all her various aspects, she proclaims the goodness of Him whose face through her is made visible, the beauty of truth and virtue, and the deformity of falsehood and vice.

Nature is always true and beautiful; that which does not accord with nature is always false and ugly. The painter who takes nature for his guide is sure to succeed, while he who leaves nature for "the schools" is as sure to fail.

We love Cowper, Wordsworth, and Bryant, because they are nature's pupils, singing of what they have seen and felt, and not of what *might* have been.

There is no discord in nature; all her operations are harmoniously performed. The grass and the beautiful flowers spring up at their appointed season; the trees put on their emerald robes; the brooks pursue their wonted course; the sunshine and the showers invigorate the growing plants, and in the autumn we behold the result.

Nature's laws are so harmonious that a superficial observer would suppose her to be governed by no laws. Yet they are inflexible, and are never transgressed; and he who has an eye to see the beauties of the fields and woods, and an ear to hear the anthems which swell in every valley, and on every hillside, cannot fail to appreciate the vast store of enjoyment and instruction which is spread out before him.

NICKAJACK APPLE.*

THIS very fine and beautiful Southern Seedling Apple originated in Macon County, North Carolina, among the Cherokee Indians, in the vicinity of Nickajack Creek, from which the name is taken. It was first brought into notice by Silas McDowell, Esq., of Franklin, North Carolina, a most industrious and enthusiastic pomologist, who sent me scions and specimens of the fruit four years ago. It is one of the best of our winter apples, keeps well until April, and, grown at the North, will no doubt keep till June or July. *Size*, large. *Form*, rather more oblong than flat. *Skin*, smooth. *Color*, dark-reddish purple to a lighter brownish red, striped on an olive-green foundation. *Stalk*, short—about $\frac{1}{2}$ inch. *Flesh*, yellow, subacid, and very palatable.

JOHN R. STANFORD, *Clarksville, Geo.*

QUEEN APPLE, OR NIX'S GREEN.

THIS very beautiful Apple originated in North Carolina; it is one of the best fruits for early winter use, and was found in the orchard of Mr. John Nix, of Habersham County, Georgia. *Size*, varies from large to very large. *Form*, flat, or nearly so, and much the largest at the stem end. *Skin*, very smooth, of a yellowish-green color. *Flesh*, tender, subacid, and very pleasant to the taste. Ripens November to January, here; further north, would keep till March.

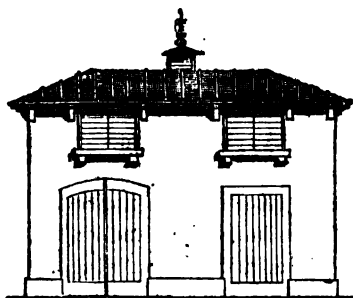
JOHN R. STANFORD, *Clarksville, Geo.*

* See Frontispiece.

CARRIAGE HOUSE AND STABLE FOR A SMALL COTTAGE.

A SUBSCRIBER requests us to give a plan and elevation of a cheap carriage-house and stable, to have a neat exterior expression, and, at the same time, not infringe on the convenience and space within; he also limits the expense to \$250—a very small sum, indeed, for such an edifice. The annexed plans will correctly convey the only manner in which so cheap a barn can be constructed, without entirely losing sight of ornamental effect. We will premise that the material is wood. The posts should not be less than 8 by 12 inches; the sills should be somewhat thicker; the remaining sticks can be

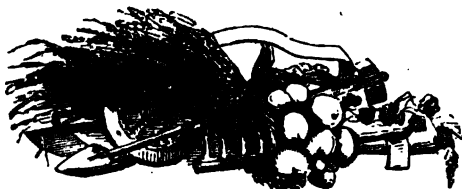
6 by 9 joist, and 3 by 4 scantling. The weather boarding should be secured perpendicularly to the frame, and the joints protected by narrow strips, bevelled; finish the inside with rough hemlock boards, filling the space between the out and inside boarding with oat straw, rammed down compactly. A stable cannot be too warm.



The ground plan exhibits a carriage room, 14 by 14, with an entrance from the front side of the building, and is also in easy communication with the harness-room and stalls. The stalls are each 14 by 5½, containing crib; feeding troughs, &c. They also have a door in the front. As a cow is indispensable to the cottager, we have provided a suitable apart-

ment for her winter quarters. It is 14 by 5. The hay loft is arrived at by a stairway contiguous to the harness-room. The loft is so arranged as to permit of foddering both horse and cow from nearly the same openings. To secure proper ventilation, and also to add a decorative feature, a small cupola is attached to the roof, rising from the centre.

A very durable and cheap paint for a barn is produced by mixing common French yellow (worth about five cents a pound) with lamp-black, which creates a beautiful, clear olive, and will keep color for several years.—*Hort. Review.*





Pteris argentea.—*Adiantum formosum*. *Sarracenia Drummondii*.—*Adiantum cultratum*. *Pteris macrophyllus*. *Daria diversifolia*.

FLOWERS AND BOTANICAL NOTES.

BY W. S. COLEMAN.

Here spreads a range of level plots,
Of box-fringed beds, where lurking knots
Of buried flowers repose, to bring
Kind greeting to the early spring.

The brightest flower of the winter garden—the very gem, until the
crocus comes to rival it—is the winter aconite. The old writers
called it yellow or winter wolf's-bane. Clare well describes this
flower—

The winter aconite,
With buttercup-like flowers, that shut at night;
Its green leaf furling round its cup of gold,
Like tender maiden muffled from the cold.

The fern tribe may certainly claim our attention as possessing the
qualities most worthy of interest; many of the species being ever-
greens, they give a fresh, verdant appearance to the conservatory
when it is forsaken by the gay flowers of summer; or, if grown
under a glass shade, or "temple," they form a delightful ornament
to the dwelling-house at all seasons.

In the above group a variety of these graceful forms are given,

and, as their attraction lies principally in their form and trans-
parent texture, our descriptions of each individual will be very
brief.

The large-leaved brake (*Pteris macrophyllus*) is a very fine spe-
cies. The leaves are almost entirely surrounded by a thickened
margin containing the organs of fructification.

Adiantum formosum and *A. cultratum*, two species of maiden-
hair, have the glossy black stems and delicate leaves so well
known in the British maiden-hair fern.

Pteris argentea (the silver brake), and *Daria diversifolia*, are
the other two species represented.

The large centre object is a most remarkable species of side-
saddle flower (*Sarracenia Drummondii*). In the summer it bears
curious purple flowers, but its chief interest lies in its wonderfully-
formed tubular leaves: they have somewhat the shape of a post-
man's horn, are about two feet in height, and of a vivid green
color, except at the upper expanded end, where they are most
beautifully marbled with red, green, and white. This plant re-
quires a very high temperature for its cultivation, as much as
from 80 to 100 degrees.

A FEW REMARKS ON LATE GRAPE CROPS.

BY WILLIAM CHORLTON, STATEN ISLAND, NEW YORK.



It will, no doubt, be well remembered by many, that on the 4th Nov., 1854, there was a severe frost, which entirely destroyed the leaves of the grape-vines in most of the late graperies in this part of the country; and also after the following severe winter, when the plants ought to have burst with usual vigor, that the buds *broke weak* from excessive bleeding, which proceeded from longitudinal strips along the canes, and this to such an extent that, in some instances, heading back had to be resorted to in order to again get healthy wood, the collective consequences of which were, that some crops were below medium, and others partially injured. So sudden and unexpected was this frost, that it is doubtful if one in ten would have applied fire heat if they had had the means; notwithstanding, there was an opportunity for assailing the principle of growing the exotic grape under glass without artificial heat. Now, while we admit that a temporary heating apparatus is of service occasionally, there is no reason in condemning *in toto*, as is often done, either this or any other equally economical qualification, when a little foresight and understanding will remedy the expected contingency; and perhaps there could not be a better example than the one now before us to prove the necessity for a gardener to possess some knowledge of the anatomy of plants. To make this appear plain—supposing a man, in whom is combined physiological and practical experience, on seeing the wholesale slaughter of the leaves, those sources of assimilation and evaporation upon which, only the day before, he cast such a cheerful look, he would thus soliloquize to himself: These leaves are destroyed too soon, before they have done their destined duty; they have not evaporated so much of the moisture as they would have done provided they had not been cut so prematurely; consequently, it will be best to prune immediately, that the light and air may act upon the surface of the bark more readily, by which the drying process will be somewhat assisted; they must also remain exposed so long as the weather will permit, but with all that can be done, there will be an excess of fluid in the canes, rendering the cells more than usually subject to distension and rupture during severe frosts. Some extra covering will also be necessary, and this placed loosely, so that a free circulation of air may pass amongst the vines. So far as can be, cold must be excluded, and sudden changes of temperature avoided.

After such severe winters as the last and the previous, he would again reason: With all the care taken into account, it is likely that some laceration of the cells, which are formed longitudinally amongst the vascular tissue, may have occurred in consequence of the expansion by frost of the over-abundant liquid matter contained, and which ought to have been dissipated in the fall, and, to prevent further mischief, it will be advisable to endeavor to obtain an even action

over the whole structure; this may, in part, be accomplished by keeping the vines covered from the invigorating action of the sun's rays until a few more of the cold "snaps" have passed over, and when the buds can no longer be kept back, instead of tying down the tops as usual, which has a tendency to retard the upward progress of the rising fluid, or rather to compel it to take a lateral course, thereby forcing it, while still in a watery state, to ooze out through the sides of the injured cells. The better plan will be to tie the vines up at once, which will assist in enabling it to flow more freely upwards, and over every part alike, the probability being that it will the more surely combine with the stored-up and more solid material, which is intended by nature, at this period, to furnish the substance for fresh cellular matter, and so fill up all interstices in the form of a mucilage, that will harden after a time, and repair the mischief in the same way as the healing of a wound in the animal body. In this particular peculiarity there is no occasion to be so exact about the lower buds, for if the injury that is to be apprehended has been done, there will be sufficient stoppage to the upper permeation this season; without any extra curtailment of the plant's natural action, which, when once obtained, will repair all former injury.

This simple reasoning may be thought "small talk" by some of your readers; but I can answer for it that one crop of grapes, at least, was received in fine condition last year where it was put into practice, while some others in different places showed the lack of it, and it is purposely sent at the present time to prevent, if possible, a repetition of similar casualties, which are likely to occur from the intense cold of the late winter.

I would add, in conclusion, that many of the cherries and a few other kinds of trees here are being split from the bark to the centre, the whole length of the trunks, by the action of the frost and dry, cold winter winds. (*Query*.—Is not this the cause of "gumming"?)

SUGGESTIONS ON THE CULTIVATION OF THE GLOXINIA.

BY DANIEL BARKER, UTICA, NEW YORK.

AMONGST the numerous plants which are highly deserving of more universal cultivation, and a greater degree of attention, than is usually bestowed upon them; the Gloxinia stands conspicuous in an eminent degree. Although plants are to be met with in many collections, it has but rarely been in that state of perfection of which it is susceptible, being, for the most part, subjected to only the ordinary treatment of a miscellaneous collection of greenhouse plants.

The plants, comprehended in the natural order, to which the Gloxinia belongs, are, many of them, inhabitants of deep-shaded dells, or of their immediate vicinity, in the tropical parts of the world. Many of them have their habitation on old decayed logs, and other rich decaying vegetable matter, while others grow upon

more elevated and exposed situations : the genus under consideration belongs to that section which thrive, in all their native luxuriance, in the deep shaded valleys of Pernambuco.

To cultivate it with success, the following conditions demand especial attention : that the roots be allowed abundant means of spreading in a horizontal direction ; in order to effect this, I have used large garden pans, or feeders, in lieu of pots, for the last shift, with the best success. If large specimens for exhibition, or otherwise, were desired, I use them of the size of twelve inches over, and five deep, allowing one inch for effectual drainage, which must be strictly attended to throughout their entire growth, from the seed, or cutting, as the case may be, to the final shift into the flowering pans.

The first process of raising the plants is by cuttings (leaves, with the entire petiole attached) ; this can be done at any time after the leaves have attained their full development, which, under ordinary circumstances, will be from June to August—the earlier in the season the better, in order that the young bulbs may become sufficiently strong to put forth their lovely blossoms in abundance during the ensuing season.

Fill the cutting pots, to within three inches of the top, with broken crocks ; upon these a layer of sphagnum (bog moss) ; then fill to the rim with clean sand, and saturate with water ; afterwards, insert the cuttings (leaves), removing them to a gentle hotbed, being careful to shade during the warmest part of the day ; in this situation they may remain until they have attained a sufficient size to transplant, which should be done into two-inch pots, using a compost of decayed vegetable mould, with about one-third sandy loam, which should have the additional care of being well and effectually drained. When potted, they are again placed in a gentle hotbed, until sufficiently established to be placed in the greenhouse, where they may remain until the leaves die down ; after which, they may be placed under the stage of the greenhouse, being careful to place the pots upon their sides, in order to prevent any moisture coming near the bulbs, and not too near the flue, as this would cause the buds to shrivel up ; in this situation they may remain until the following March or April, when they may be repotted, being careful to shake all the mould from their roots ; to the above-named soil, add one-third of partially decayed wood, with a few uneven pieces of charcoal, which, while they have the effect of retaining moisture about the roots, will also be the means of facilitating the escape of any which might be superfluous.

When repotted, place them in a shady part of the stove, or propagating-house, in a close and moderately warm atmosphere, paying attention to repotting as often as the plants require it, until finally removed into the flowering pans.

During their growth throughout the spring, and, indeed, until the flowering is over, keep them in a position where they can enjoy a partial shade, with a temperature of from 60° to 80°. As the season advances, the shady part of a greenhouse will be all the protection they will require ; indeed, protected, in a cold frame, during the warmest part of the day, from the sun's rays—in such a situa-

tion, they will perfect their lovely blossoms, and last a much longer period in bloom than if left in the stove or greenhouse. The period at which they will be in bloom, if such a course be adopted, will be from about the end of June until September, varying as their maturity may be encouraged or retarded.

IMPATIENS JERDONIÆ.

TRANSLATED FROM THE REVUE HORTICOLE.

THE Balsam, to which the present species belongs, affect shady, damp localities, and the decayed mould of large forests in both hemispheres; they are annual or perennial plants, with cylindrical stalks and branches, smooth, frequently swollen at their articulations, and filled with a very abundant watery juice; the leaves are alternate, or opposite, nearly always dentated, and unprovided with leaf scales.

The common Balsam, introduced into Europe at the beginning of the sixteenth century, has served as the type of this family, to which the earlier botanists added a plant of the group of the Cucurbitaceæ, the *Momordia balsamina*; a whimsical connection, indeed, but one which indicates a tendency to generic approximations, founded, in this case, on the dehiscence of the fruit, which, at maturity, bursts open with great elasticity.

Like the *Tropeolæ* (Capucines), which resemble them, the Balsams present us with a remarkable variety in the color of their flowers, and the species under consideration exhibits this, in a high degree, in a mixture more curious than harmonious of green, yellow, and red.

The *Impatiens Jerdoniæ* is a native of the Neilgherry Hills; its stalks, which are carneous, of a deep violet brown color, and of the size of one's little finger, and very smooth, are generally provided with joints, which render them very fragile; the edges of its leaves, which are oval, thin, and of a bright green hue, are furnished with teeth, terminating in a

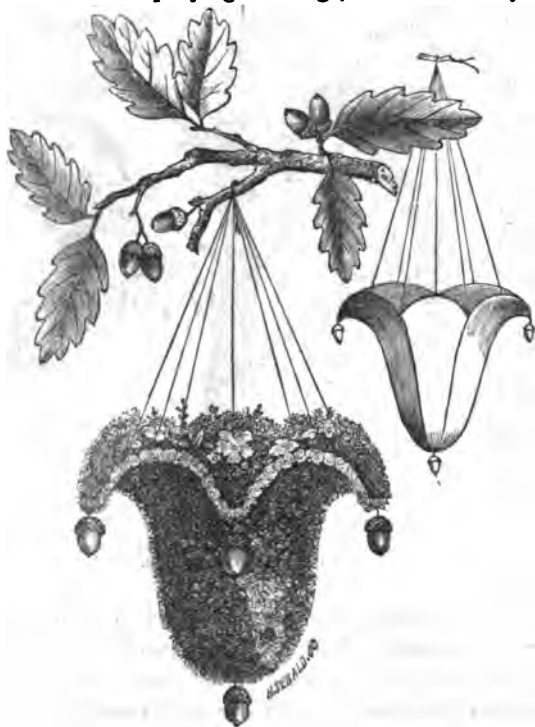


IMPATIENS JERDONIÆ.

sort of brown or violet-colored gland ; the flowers spring from the summit of short, axillary peduncles, and are supported by long, straight pedicles, of a beautiful carmine red color, the tops of which are lost in the bases of the calycine leaflets. Of these leaflets, the lateral ones are oval, lanceolate, of an herbaceous (greenish) color, whilst the upper one, yellow, and hood-shaped, has merely a green line in the centre ; therefore, as may be seen, the *Impatiens Jerdonia* owes all its qualities to one of its petals ; this portion of the flower, which is of a beautiful carmine red, and shaped like a bag, terminates, inferiorly, in a kind of hook, or straightened point, in the species under consideration, whilst, in others, it is extended to a cylindrical and delicate point, which has received the name of apur. In short, the original character of the flower of the *Impatiens Jerdonia*, and its profuse crop of flowers, make it desirable, and class it in our greenhouses with the *Impatiens platypetala*, *Hookeriana*, etc. Like the latter, and the *Imp. glanduligera*, *Royleana*, *fulva*, etc., which so greatly contribute to the beauty of groups planted in the shade, it requires the same care in cultivation. J. DECAISNE.

ORNAMENT FOR DRIED FLOWERS.

THE accompanying drawings, made for us by an accomplished lady, represent



a pasteboard hanging vase, covered with moss, and attached to an oak branch, for a parlor ornament. From the material employed, it is better suited for dried flowers than those which require water.

The smaller basket represents the mode in which the pasteboard is united after being shaped, and the larger exhibits the same covered with moss. Every lady of the least taste can make these baskets, and ornament her boudoir, parlor, or sitting-room with her own handiwork, which she will enjoy more than expensive purchased objects.

The oak-leaves may be represented in winter in leather.

PROTECTION TO FARMS.

FROM A LETTER OF CHARLES DOWNING, OF NEWBURG, NEW YORK, TO THE EDITOR OF THE
TRANSACTIONS OF THE ILLINOIS AGRICULTURAL SOCIETY.

WHEN I saw the prairie land for the first time, it struck me very forcibly, and I have often thought of it since, how much more comfortable the inhabitants might be if they would plant hedges or wide belts of trees to screen them from cold winter winds, and also be a protection to their crops, especially fruit. If each owner of one or two hundred acres of land would plant their boundaries or division lines with belts of trees, say from twenty to one hundred feet wide, they would find it to their advantage and comfort.

Besides the protection, the trees would in a few years, when large enough to thin out, be valuable for firewood and timber. An objector might say, "It would be very expensive to procure and plant such wide belts of trees." To such I would reply, that many kinds, one year old (which is large enough), could be imported very cheap from the English and French nurseries by the 1000, such as elms, ash, maples, beech, birch, linden, larch, alder, &c. Agents in New York city would order them on application.

The ground should be ploughed a year previous to planting, and well worked through the summer, with or without a crop, as most convenient. The following spring put in the plants from three to six feet apart; those which make the largest growth, such as elms, &c., plant on the back line, and so on with the different sizes, so as to have the lowest growing kind inside or front; the last or inside row it would be well to plant with evergreens, say Norway spruce, because it is a faster grower than evergreens generally, and small plants can be obtained cheap.

Osage orange, locust, and chestnut, being fast growers, would be desirable to mix with the above-named kinds.

Another plan would be to procure seeds of any of the fast growing kinds of trees, grow them in beds in the garden one year, and then transplant them in the belts or screens. But there would be failures and disappointments, and it might not prove as cheap and satisfactory as to import them.

But the quickest mode of obtaining a screen for protection would be to procure cuttings of some of the free and strong growing varieties of the willow, such as *Salix triandra*, *S. Beveridgii*, *S. Purpurea*, &c., which grow from forty to sixty, and seventy feet high, and very rapidly, too, in a deep moist soil, and very suitable, no doubt, to much of the prairie land. This, however, would not be so valuable for general purposes, when grown, as elm, maple, &c.; but would make its growth in about half the time.

For profit and quick growth combined, there is nothing probably equal to the common yellow locust (*Robinia Pseudacacia*); it will not only make a fine belt for protection in a short time, but for fencing posts and durable timber (espe-

cially ship building), nothing equals it; and it has always commanded a high price; and I think a portion of the western prairies might be planted with it, as a profitable investment. It is said there are two kinds, one durable and the other not; but I know of only one kind. It is possible, if grown on deep, rich, mucky soils, the timber would be coarse grained, spongy, and not as durable.

CRITIQUE ON THE APRIL HORTICULTURIST.

Parks versus Villages.—An accurate specimen of the taste and "designs" of these suburban villa speculators, who seek to cram honest, well-meaning city people into their contemptible seven-by-nine lots, called "sites for country residences," such as we see daily advertised in the newspapers. And a great many of these city folks are just soft enough to be duped by the sharpers! Why, in the name of wholesome air and sunshine, don't city people, who, with their families, want to spend their summers in the country, go out and find some quiet nook, or open spot of some acres, according to their wants, within striking distance of a railway or steamboat landing, away from the vulgar noise of a daily bread-wagon, milk-cart, or other town nuisance? There they can build themselves a quiet snuggerly, with its cozy group of out-buildings among the trees, or under the rocks, or near a brook or river, and, for a few months of the year, withdraw from the cares of a vexatious world; look out at the heavens by day, so gloriously lighted up with the sun, and garnished with floating clouds; or at the moon, with its vast retinue of brilliant stars, by night; upon the earth, with its emerald of green, shadowed over with waving trees, or spangled with flowers giving out their delicious odors; and the happy birds, filling the whole air with music; ay, and the soul who has no sympathy with these, one and all, has no business in the country at all!

Thousands of such spots are within a few miles of all northern cities, both cheap and accessible. But, no. Such mode of summer life is *not the fashion!* Town folks must, when summer comes, pack up their finery, and fizzle off behind a vulgar steam-engine, of some sort, to some watering-place, where they vapor about for weeks in the daily pursuit of some nonsense or other; or, if not that, must have a country villa in some starched-up, macaroni village, or neighborhood, populated, for the most part, with just such flunkies as themselves, where driving equipages by day, and dressing matches by night, and other like vanities, are the standing order. The "wimmin folks" must have "society," of course, to admire their finery; and the men, their dinner parties and wine drinkings, as if their eight or nine months of annual city life, in that sort of indulgence, could not cut short their lives fast enough. But, being too old-fashioned in my notions to set this wayward world right-end-up, I must even take a shot at folly as it flies, and let the folks drive their own "road to ruin."

Pear Culture. No. 2.—When Doctor Ward gets through, I'll "sum him up," as the lawyers say.

The Cotton Wood.—Go on, Mr. Allen. I will consider your "case" with the Doctor's.

Transformed Pears.—What will they do next out on the Mississippi? I have seen the prairie plum turn its young fruits into a sort of nodule, as they grew through the summer, something like the *galls* on the oak-leaf; but this is a new thing altogether.

Is the Kalmia Poisonous?—I hope not; although I have often heard that both sheep and neat cattle have died after eating their leaves. I think, with Nuttall and yourself, Mr. Editor, it is more probable that the indigestible quality of the leaves was the cause of death in the animals than any poisonous quality they possessed; for I have known thousands of cattle and sheep which grazed through the summer, in safety, on the hill and mountain sides, where the laurel grew in full luxuriance. How my old heart jumps back to early boyhood when I think of the beautiful *Kalmia latifolia*! I grew up among them; and how manytimes, in the joyous spirit of a young lamb, have I skipped among the rocks, and over the hills, when their blushing, brilliant beauty lighted up the ground, and filled the air with fragrance! The memory of those long passed days saddens me, and I will pass on to

Mr. Hodge's Cold Weather.—If he, and his Lake Erie neighbors, haven't had enough of that commodity the past winter, they had better remove down a few degrees south, where I learn they have enjoyed the genial atmosphere of 32° below zero, for days together. I hope the peach-trees have escaped this most *humiliating* frost; and with so great a body of snow on the ground to protect them, their chances are better than if the roots had been equally exposed as the branches. Mr. Hodge's pear experience is to the point, and I agree with him—that is, provided he and his neighbor, Mr. Allen, will settle the *real* virtues of that aforesaid "Orange" pear, which I recollect something about. The remarks of Mr. Hodge quite confirm my belief of the capricious vagaries of the pear family, in their contemptuous denials of flavor and good appearance when placed on soils and situations they dislike.

Domestic Notices.—J. M. Thorburn, seedsman, of New York, asks if "you cannot say a word in favor of '*Agrostis stolonifera*' for lawns?" I trust you will say no such thing; but I will take the liberty to say a word, by asking another question. Is the humbuggery of these seedsmen, who would sell old Nick himself, if they could get anybody to buy him, never to stop? For lawns! In simple English, this "*Agrostis stolonifera*" is the *Florin*, one of the abominations of all good gardeners and farmers, commonly called *quack*, *couch*, or *twitch* grass—a perfect pest wherever it obtains foothold, propagating itself by the coarse, stout-jointed root, as tough as wire, and a vitality equal to the houseleek, or live-forever, of the gardens. Nothing but *burning* will kill it. It loves a coarse, boggy soil, and, for the credit of America, is not a *native*, but an European production, de-

scribed in Sinclair's celebrated catalogue of grasses, which he made up for the Duke of Bedford. Let the "South of Europe" cultivate it if they will, but deliver it from American lawns! Before this gets into print, perhaps a hundred tom-noddy lawn-makers will order the pestilent stuff for their door-yards, where they might better introduce the Canada thistle, for that *can* be extirpated. I have heard these "lawn grasses" discussed till I am sick of the very name, as if the beautiful turf of our natural pastures had neither beauty nor fragrance in them.

The finest grasses for American lawns we can have, are what grow on every roadside throughout the Middle and Northern States, and are, simply, the *Poa trivialis*, *compressa*, and *pratensis*, known under the common denominations of spear, June, and blue-grass; to these may be added the *Poa viridis*, or green-grass of Dr. Muhlenberg, and the common white clover—*Trifolium repens*. A mixture of all these, or either variety of the *Poa*, with the white clover, make the best possible American lawn grasses. Every spring of my life I have met people running about, half demented, inquiring where they could get "lawn grass seed," as if there was but *one* grass fit for it. The "lawn" grasses, advertised usually by the seedsmen, are either nothing but the common grasses of the country, or some tender "foreign" variety, totally unfit to withstand our heats and frosts, while the *Poas*, and white clover, make a soft, beautiful, compact turf, thick as wool, and requiring less cutting than any other grasses whatever.

Gardeners (page 179).—A most sensible observer is Mr. Robert Weston. I want no man about me as a *designer* in ground architecture, who is not fit to be my companion, either in the parlor or at the table. A man of mind and cultivation he *must* be, to embrace all those requisites of taste and study which can accomplish him in the modelling and laying out of grounds, and placing of trees and shrubs. The sooner we Americans set about giving the right sort of encouragement to men of this profession, the sooner we shall relieve ourselves of the shoals of foreign charlatans, who throw themselves upon our credulity, and impose upon our ignorance.

A Suburban Residence.—Very well in style, but too much *outside* wall for the *inside* room it contains. I fear our house architects are running into the extreme in this particular. Why not have the outer walls of a house, instead of single, inclose *double* rooms? They would thus get much more space within a given range of wall, and at far less cost, and the rooms would be more compact, warmer, and, I think, in better character. The peculiar Italian style, too, can be quite as well preserved. The flat water-tables at the eaves in this house, are objectionable in point of *utility*, subjecting the roof water to detention and frost, and, in consequence, to leakage, which will stain and injure the walls. Our modern American architecture is too much assuming the *gossamer* style. After all, the old-fashioned, nearly square, compact form of our best country houses of fifty years ago, with *some* modern improvements in outside style, and conveniences within, are nearer

the mark than many a fine palace under the *reformation* in architecture; and so the public will say a dozen years hence.

How queer those women in the foreground of the picture look, with such a mass of distending whalebone under their petticoats! JEFFREYS.

THE STRAWBERRY SEEDLING.

BY "EMILE THE ELDER," PHILADELPHIA.



In the autumn of 1846, if memory serves me right, our clever "Aunt Charlotte" was at Paris, with her two youngest daughters, and while boarding at pleasant quarters in the great French capital (and capital it surely is in the eating department), she was daily served with delightful strawberries for dessert; the advanced season, no less than the very fine flavor of the fruit, made them a great luxury, and Aunt Charlotte expressed some surprise to her host, inquiring, at the same time, if the strawberries were from neighboring greenhouses? But being told that they grew in the open air, and were constant bearers, the idea immediately suggested itself of preserving some of the seeds for friends at home, and among these, a letter from Paris notified us that we should not be forgotten.

Accordingly, our kind utilitarian Aunt crushed some of the finest berries upon thick brown paper, and, after exposing them to dry in the sun, carefully rolled up the paper, and placed it in one of her travelling trunks.

During that winter, our friend returned to the United States, by way of England; arriving at New York, her next destination was their homestead at New Haven, and there Aunt Charlotte took possession of her own furnished house, which had been rented for the term of her absence. Among the first duties, she ordered her newly-hired servant woman (or, as the good people of Connecticut sometimes call them—"helps"—probably because they allow their employers to *help* themselves), was to unpack the trunks, and put *the things* into the wardrobes and bureaus; finding, as she performed this task, a roll of common brown paper, she of course threw it into the fire, and, in another moment, the Paris Strawberry seeds were so many useless grains of ashes. Thus seemed to perish all the good intentions of our obliging Aunt Charlotte, who needed to be the cheerful and sensible Christian that she is, in order to bear patiently the heedless act of her Irish "help."

It was but a few weeks after this sad event when Aunt Charlotte came to visit us at "Clover Hill," and related the ill-fortune that had befallen her brown paper of seeds, some of which she had designed for us; and as she finished the account of her disappointment, the thought suddenly came to her, and she said: "*I have that very identical trunk here with me now, and I wonder if some of the strawberry-seeds may not have been rubbed off from the paper, and remained at the bottom of the trunk!*"

She went to examine, and, accordingly, on very minute search in all the corners and cracks, she returned triumphantly to the sitting-room with three little specks upon the palm of her hand, almost invisible to the naked eye, but which, she thought, *might* be some of the detached seeds. Handing them to me with a request that they should be tried, I went at once in search of a small flower-pot, and, spite of laughing doubts, filled it with light soil, and deposited the three grains of what seemed like just so much additional sand.

More merriment than hope attended my planting, and various were the speculations suggested, as from day to day I anxiously watched for the result of what others thought to be a hopeless experiment. The dispositions display themselves on small as well as great occa-

sions, and the inquiries from various members of our little family circle sufficiently evinced the view each had taken of my proceeding, no less than of the feelings they associated with its promises.

"How comes on the little pot of sand, to-day?" greeted me from one quarter.

"Have you any show of strawberries yet?" said another.

"Please tell Rosanna to save all the cream, in case father should bring over a dish of Paris strawberries, this afternoon," was a playful order given in my hearing, as I was about visiting my little pot of sand. And still, I daily went to the hotbed pit to examine the result of my supposed seed planting, and to sprinkle them from Lizzie's tiny watering pot.

Our good-natured gardener encouraged me to hope, and, with his Irish blarney, would say: "*Anything will grow*, your honor, in *such an expose* to the south." "But surely, Patrick," I replied, "not unless I have really planted the seeds," which seemed to puzzle even Pat's politeness.

How tedious and almost endless are the days of doubt and watchfulness, and, at this date, I will not attempt to recall accurately the amount of time that gave a fixed number to those of my expectation; but, in the natural period required for seed to germinate, my patience met with its reward, in the appearance of what seemed to be a single embryo Strawberry plant. And when once its first feeble green shoot was fairly above the earth, and its tiny leaves began to assume form, all doubt was removed, and it grew rapidly into a positive, undeniable individual of the Alpine family. Nor was it until this state of progress in the character and appearance of my little pet plant, that I gave tidings, at the house, of my success; but, when its existence was duly announced, all were eager to see and manifest interest in its growth, and I received many warm congratulations.

It seems almost needless to attempt telling how anxiously, from that date, I watched and cared for the tender solitary little life, that seemed like a thing of my own creating.

"As in the early spring

We see the appearing buds, which to prove fruit
Hope gives not so much warrant as despair
That frosts will bite them."

The seedling grew apace, and Patrick, the gardener, ere long placed another flower-pot by the side of the first, and the running vine soon sent a sucker to take root there; this simple office being again and again repeated, ere the summer was spent we had about thirty plants of the same family, and were able to set out our beginning of a new Strawberry-bed in the open garden. There had been one or two blossoms on the original vine during its first summer's growth, but still, the fruit was unknown, and also the ability of the plant to endure the climate to which it had been transplanted. These were matters yet to be developed, but, meanwhile, the new-born stranger must have a name—ay, and a christening!

After hearing an endless variety of suggestions, most of which had some reference to myself—as "the 'Emile' Seedling"—"the Doctor Seedling," &c.—the ceremony of naming was duly and gravely performed—the sprinkling being still from Lizzie's tiny watering pot, pronouncing my bantling to be "The Clover Hill Seedling"—and thus rendering back to kind mother Earth the merit that belonged to her.

Strawberry time, the following spring, was most impatiently waited for, and when it came, our little bed did not disappoint us; for it yielded fruit, and the fruit was pronounced good; the berries, it was soon discovered, had one peculiarity most acceptable to those who unwillingly perform the task of hulling strawberries. "The Clover Hill Seedling" always leaves its hull upon the vine; indeed, it is almost impossible to pick them with the hulls on, and the fruit comes to the basket ready for the table, needing no second handling. It was soon ascertained, too, that our seedling possessed another great value or peculiarity, in being a constant bearer, from early strawberry time, until quite late in the autumn. The plants

only take a rest of about one month in mid-summer, and I have seen the pale berries covered with snow in December, when the sun had not the needed influence to color them.

Four summers have now so much increased our bed that we have an abundance of fruit, and have supplied many plants to friends at a distance; two families, in Virginia, have largely cultivated the "Clover Hill Seedling," and, we hear, have extended it freely in their neighborhoods; it has also travelled to, and taken root, in New Haven (not exactly Phoenix-like, rising from its own ashes), and in New York, and already the rare fruit has more than once given unexpected pleasure to the sick and suffering. Poor little Harriet, an angel of patience and humility, and the victim of a slow consumption, was made happy during the last weeks of her feeble existence, by the enjoyment of these strawberries, so unexpected in the autumnal months; when all other food had ceased to be acceptable to her wasted energies, and benevolent friends no longer could find other delicacies to tempt her appetite, it was delightful to witness the gentle smile with which the good girl would still welcome the "Clover Hill Seedlings." She was too feeble to utter words, but her countenance recalled Talfourd's lines:—

"It is a little thing
To give a cup of water; yet its draught
Of cool refreshment, drained by fever'd lips,
May give a shock of pleasure to the frame
More exquisite than when nectarian juice
Renews the life of joy in happiest hours."

Late in the month of November, 1850, Jenny Lind was presented with a dish of fine "Clover Hill Seedlings" by little Lizzie; it was difficult to determine which was made the most happy—the child whose feelings and fancy had been greatly excited by catching some of the public enthusiasm, and was delighted to approach the "Queen of Song," or the gentle woman, who, amid the extravagant attentions and adulation bestowed upon her, was surprised and charmed by the rare and simple offering from a bright little girl.

But even better than this, "Aunt Charlotte," her children, and grandchildren, almost annually enjoy the fruits of her single Paris seed: and if it be true, as a wise man has said, that "he who plants a tree, confers a blessing on his fellow-men," may it not be equally true that he who plants three doubtful seeds in a pot of sand, may do good to others, and bring infinite pleasure to himself?

Shall there be a moral to our story? and shall it not point to the blessings likely to ensue from faith and perseverance? It was the duty of faith to plant the supposed seeds; perseverance watched over them with interest, and Heaven has rewarded the work.

CLIMATOLOGY, NO. 2.

BY A CONSTANT READER.

SPRING CLIMATE OF THE UNITED STATES.—A careful examination of the highly interesting *Army Meteorological Register*, shows that the mean temperature of the spring months is an important element in the characteristics of climate. We subjoin a few extracts to illustrate this fact. "The principal lines of the Isothermal chart differ five degrees in temperature, and east of the meridian of 100° they divide distance on the meridian with great uniformity. On the Atlantic side, the range is 35° of temperature for 23° of latitude; or, excluding the lower part of the peninsula of Florida, 30° of temperature for 17° of latitude, which is very nearly a decrease of temperature of one degree for forty miles of distance northward. The same decrease is found in the Mississippi valley."

Taking the mean temperature of the separate spring months, the mean temperature for April nearly represents the spring mean. Places having a mean temperature of 65° for May,

have 55° in April, and 45° in March. The following table gives the mean temperature for March, and the increase of the mean temperature from month to month, until June.

STATIONS.	Mean of March.	March to April.	April to May.	May to June.
Eastport, Maine	30.8	9.6	8.8	7.6
Portland, Maine	32.5	10.4	9.9	10.3
New York (Governor's Island)	38.3	10.4	10.7	9.
Mouth of Niagara River	34.5	9.7	11.5	9.4
Pittsburg (three miles N. E. of city)	39.	10.9	11.	8.3
Baltimore (Fort McHenry)	42.3	10.4	10.4	8.6
Washington (14 miles S. of capitol)	46.8	10.3	11.1	8.1
Augusta (three miles W.)	55.8	9.3	7.	7.
St. Louis (three miles below)	42.3	12.7	10.	9.2
Newport (opposite Cincinnati)	43.4	10.	11.4	8.8
Detroit	35.4	10.8	9.8	9.6
San Francisco	52.8	2.5	0.	3.5
Fort Vancouver (80 miles from the mouth of the Columbia)	44.1	8.4	6.4	8.7

The increase from March to April, and from April to May is nearly alike; while the increase from May to June is less—showing that the uniformity in the advance of the temperature belongs to a less period than three months. "The period we designate as Spring, is, on the whole, too long for identification as a single quantity in the continental temperate regions of this hemisphere. The natural seasons are unequally divided in time; in truth the winter and summer being longer, and the spring and autumn shorter than ninety days. An admirable analysis of ten years observations at Albion mines, Nova Scotia, has been made by their author, Henry Poole, Esq., by which it appears that the seasons there are naturally resolved into periods of sixty-six and sixty-three days for spring and autumn, and 120 and 116 days for winter and summer. The winter minimum temperature is January 20th, or thirty days after the solstice, and the summer maximum July 22d, or thirty-one days after the solstice. The mean annual temperature is passed on May 1st, and November 1st, forty-one and forty-four days after the equinoxes respectively.

A table is given of the means and of the extreme variations of temperature for the three spring months for thirty-four years from 1820 to 1854, at Fort Columbus, near New York, Fort Gibson on the Arkansas, and Fort Snelling at the mouth of the St. Peters, on the Mississippi.

	FORT COLUMBUS.				FORT GIBSON.				FORT SNELLING.			
	Mar.	April.	May.	Spr'g.	Mar.	April.	May.	Spr'g.	Mar.	April.	May.	Spr'g.
Mean	38° 3	48° 6	59° 3	48° 7	52° 2	62° 1	68° 8	61°	31° 4	46° 3	59° 0	45° 6
Average departure from the mean	2° 30	2.69	2° 06	1° 80	3° 27	3° 2	2° 32	1° 72	4° 72	4° 20	3° 40	2° 94
Greatest departure	-8.	-5° 4	+5° 6	+3° 9	-13° 7	6.8	-6.5	+5.4	-26.5	10.9	+9.2	-12.1
Year of ditto						+1839				+1839		
Greatest range	1843	1836	1836	1822	1843	-1850	1838	1826	1843	-1850	1829	1843
	14° 3	10° 3	10° 5	7.8	23° 7	15° 6	11° 8	10° 2	34° 9	21.8	16° 3	17° 3

This table shows how irregular is our spring climate—how great are the oscillations of temperature—and that the greatest deviations are below and not above the mean. The extreme cold of March, 1843, was felt over the whole country. The extremes of temperature lessen as the spring advances. It is important to ascertain the districts in which the thermometer falls to the freezing point once or more in the course of a month.

"On the coast of California an examination of the minima for five years, affords but two instances of the observation of 32° in March; while, in the interior, and in Oregon, it may be anticipated several times in this month; though the lowest observed point at stations not much elevated, is 19°. In April it is never reached in California at the sea-level, or near it, and rarely in Oregon; at Puget's Sound, three times in six years. In May, there are no instances of its occurrence on the Pacific, except at stations elevated 2000 feet or more.

"At Fort Yuma, in the valley of the Colorado, the freezing point is never reached in spring.

"At all the stations in New Mexico, the temperature constantly falls below 32° in every month of spring, and at Fort Massachusetts and Fort Defiance, it usually does so in June.

"In Texas, there is no frost or ice in the lower Rio Grande Valley in these months, though it twice occurs at Fort Duncan, and the posts of that vicinity, in March. Perhaps a more extended series of years would give instances of severe frost in the principal portion of this valley in March, though there could be none in the following months. All the remaining portion of Texas has the occurrence of frosts in March regularly; in April for the lower districts very rarely, though they occur in half the years, or more, at the posts on the plateaux, elevated one or two thousand feet; but never in May, at any point not mountainous.

"In the principal area of the United States, eastward, the lower portion of the peninsula of Florida, below Fort Brooke, is the only portion not liable to frosts in March, in extreme years. From the year 1822, when observations were made either at that district, or so near it as to decide the point, twelve years occur in which the thermometer fell to 32° , or lower, as far south as Fort King, and, in two of these years, at least 1835 and 1843, it fell to the freezing point as far southward as Fort Brooke. In something more than half the years of the period now observed, the coast of the Gulf, and of the Atlantic to Charleston, experiences one or more instances of a temperature of 32° in this month.

"In April, the line of ice and frosts, or a temperature at or near 32° , recedes to Fort Monroe and Fort Gibson, and they are much more rare at either of these posts, than at Florida stations in March. The depressions of temperature within which they occur, are, however, frequently connected with falls of snow in the Atlantic States, and they usually affect the more elevated portions of all the States east of Alabama. In 1854, a heavy fall of snow occurred in the middle of the month in Virginia, and ice was formed in the vicinity of Charleston. Though frosts are quite frequent in this month at St. Louis, there are few instances of the formation of ice in the latitude of Fort Gibson; light hoar frosts occur in almost every year, however, and sometimes as far southward as Baton Rouge. These may occur at an air temperature of 43° , in the ordinary positions of the thermometer.

"In May, the line of ice formation rises to St. Louis, Cincinnati, Philadelphia, and New York, and, at these points, the temperature of 32° is not found in every year. Ice is formed during the first half of the month to this latitude, in the interior districts, however, quite regularly, and hoar frosts occur in the remainder, where the altitude is noticeable, and at some distance from the coast. At the close of this month, frosts disappear from all portions of the United States territory, except at the highest altitudes cultivated."

THE YEAST PLANT.

Country Lady Housekeeper.—"Cook, we are out of yeast; I wish you would make some."

Cook. "I never makes yeast; I always buys it."

Lady. "Yes, but it is too far to send to town for a pennith of yeast! How do you make yeast?"

Cook. "Well, I mixes flour, salt, and hop-water, and adds a pennith of yeast."

The poor lady is not able to discover how this will *originate* what is so indispensable, and hastens to the nearest neighbor with the question: "How do you make yeast?" Answer as before. "Mix flour, salt, and hop-water, and add a *pennith of yeast*." This reply any lady who chooses to make the experiment will receive every time she asks, whether from neighbor, baker, or any one else. Let her try a scientific friend, and more probably than not the same will be the result, and she is sorely puzzled to know how it would be, if by any bad luck the whole country was to lose the source whence comes that important *pennith*!

So she inquires of everybody, gently insinuating that she wants the *pennith* left out in the answer; but, getting no satisfaction, she recollects that we *discovered* the vinegar plant, and she drove over to us. All our books were silent on the subject, so we applied to a learned botanist, who never allows anything that can be known to escape him, and here is his satisfactory elucidation of the mystery:—

Diastase is a peculiar nitrogenous substance, possessing the property of converting a large proportion of *fecula* into dextrin, and is found in the germ of the *cereal* and tubercular vegetables; it appears to be formed at the moment of germination, at the expense of the albuminous matter contained in the grain, as it resides in the very origin of the germ, and, in the eye of the tuber; it is generally extracted from barley, which has sprouted by digesting the grain in water; it is applied in the arts for the purpose of obtaining dextrin, which is used in baking of pastry, and the manufacture of beer, &c. In the solution of sugar with albuminous substances, either vegetable or animal, after some time the solution becomes cloudy, and small, oval bodies are deposited, gradually increasing in size until they attain a visible diameter; during the first two hours, the globule exhibits nothing peculiar, but, after this period, there forms at the point of the globule a rupture—a second globule—which gradually increases until it has obtained the dimensions of the original; this second globule soon generates a third, which is attached to the side of the second, in the same way as this grew on the first, and so on, and this is the way the yeast plant grows. This plant is a species of microscopic vegetable, which is spontaneously developed in the organs of plants, and in a large number of nitrogenous substances, when left to putrefy, and is also formed by exposing to the ordinary temperature a solution of sugar mixed with albuminous substances, of vegetable or animal origin, as decayed cheese, spoiled meat, &c. It will hence be seen, that on adding an albuminous substance to a mixture of sugar and ferment, the sugar is not alone affected by the ferment, as the albuminous matter itself undergoes several metamorphoses, and is converted into yeast, which fact explains the reason why, in breweries, at the close of the operation, a quantity of yeast is made eight or ten times greater than that which had been originally used.

Raspail, in his *Philosophy*, says: "Starch consists of vesicles inclosing within them a fluid resembling gum; starch may be put into cold water without being dissolved; but when placed in hot water, these vesicles burst, and allow the escape of the liquid. This liquid is the *dextrin* of Biot, so called because it possesses the property of turning the plane of the polarization of light to the right hand." The way the pastry-cooks get it is, by putting starch in hot water. To which it may be added, that the credit of establishing the true nature and properties of the yeast plant is due to Gaynard Latour, who, some years ago, proved that the conversion of sugar into alcohol and carbonic acid was caused by the presence and growth of the *Torula cerevisiæ*, a cryptogamic plant, existing only in the form of globules, and Blondeau subsequently has thus described the nature of yeast: "There are two species of germs present in yeast, those of the *Torula cerevisiæ*, and those of the *Penicillium glaucum*; the germs of the first (the true yeast plant) multiply with great rapidity, but never form stems, or deviate from the globular condition; the *Penicillium glaucum* also multiply, first in globules, but they soon extend themselves, unite, and form an arborescent vegetation, and are so much smaller than those of *Torula cerevisiæ*, that they can be readily separated by filtration. Perfectly developed stems of *Penicillium glaucum* always form on yeast when exposed for a length of time to the air, and always lose their property of fermentation when exposed to a heat of 212° Fahrenheit; the plant being killed by that temperature; the most favorable temperature is from 68° to 73°. It is now positively ascertained that the yeast globule (*Torula cerevisiæ*) is a plant possessing a cellular structure, consisting of an external envelop resembling lignin, and of an azotized internal substance.—

C. J. WISTER.

FOREIGN NOTICES.

MRS. CATLEUGH'S NURSERY, HANS PLACE, CHELSEA.—This is one of those places in which certain kinds of plants are grown by the thousand for Covent Garden market. It is, therefore, not uncommon to see here a large houseful of Pelargoniums all in full flower at one time, another of Heliotropes, and frames some hundreds of yards long stocked with Mignonette. Potfuls of the latter sown in September last, and wintered in low, cold frames, will soon be in blossom. Mignonette, we need scarcely state, is sometimes sown in small pots, with the view of economizing room; but, where space is no object, it gives less trouble, and succeeds equally well sown at once in the pots in which it is to flower. It may be wintered in a shallow frame, as has been done here, from which the lights should be removed entirely in fine weather, so as to give as much light and air as possible. Many complain that they lose their Mignonette in winter; but this is, for the most part, owing to their keeping it too damp. It should have little or no water for about three months during the dull season, and care should be taken to keep it free from drip, which is sure to kill whatever plants it happens to fall on. When small pots are employed, particular care need not be taken to have the soil very rich, provided it is light; but, when sown at once in the flowering pots, richer material should be used, draining well, and placing on the top of the crocks flaky pieces of decayed manure, for the double purpose of affording nourishment to the plants when they are coming into bloom, and for keeping the soil from choking up the drainage. Autumn sown plants, which were shifted into larger pots about Christmas, will blossom from the present time till about May, and another sowing now will succeed them, after which it may be had plentifully in the open ground. Even the worst potfuls should not, however, be thrown away, for, if topped back about this time, they come in nicely for window-boxes in May, which may be managed in the following manner: Having some Tom Thumb Geraniums (any other dwarf, showy plants, as Intermediate Stocks, would do), three of these are placed in a box, one near each end, and one in the middle, and between them are introduced carefully, so as not to break the balls, pots of Mignonette, filling the boxes up with rich, light soil, and finishing with a good watering to settle the earth round the roots. The after-treatment consists in keeping the boxes watered always when they require it, and, be it remembered, that if Mignonette is ever allowed to flag, it seldom succeeds so well afterwards. Boxes thus arranged are greatly admired during the summer months, the Geraniums giving brilliancy of color, while the Mignonette furnishes all that is wanted in the way of scent. In addition to the above, all kinds of spring bulbs are grown extensively here, and are at present very gay. Hyacinths potted, and wintered out of doors under ashes, are now moved into heat in succession as they are wanted, and soon burst into bloom. Azaleas and other shrubs are also forced into flower for bouquets, for which, at this season, there is always a good demand. Below the stages of different houses in which no more fire-heat is used than just what will keep out frost, are large beds of most excellent Rhubarb, from which the market supply for weeks has been derived. This has been obtained from roots which were moved under glass soon after Christmas, placed closely together, and covered with soil. The sort is the Victoria, which, although, perhaps, not so red as Salt's Perfection, and some other kinds, is a vigorous grower, and deservedly a general favorite.

VEGETABLE PATROLOGY.—VENEFICIUM (*Poisoning*).—Plants having only very limited powers of choice as regards the matter absorbed by the spongelets, whatever is really held in solu-

tion by the water they imbibe must pass with it into the cell cavities, and in those cases where substances such as silex are taken up more freely by one plant than another, the difficulty depends probably on mechanical laws which, at present, we are unable to appreciate. If, however, the choice of the spongelets is limited, that of the stomates is still less so, so that whatever gaseous matter may be contained in the atmosphere will find a ready admission to the inward parts of the plant. It is obvious, therefore, that as the exigencies of plants are very different, and the same nutritive matter, or, rather, the same proportions of it, will not suffice for the maintenance of health in all, even under ordinary circumstances, disease may arise from a deficiency or redundancy of particular elements in the soil and atmosphere. The salt steppes of Asia produce only such plants as delight in the particular mineral which abounds in them, or are as able to tolerate it in such large proportions. In land, again, over-manured with guano or other animal matters, health, or even vitality, cannot be maintained, where the proportion is such as to exceed greatly the wants of the species. Wheat, for instance, will not flourish where there is a total absence of silex, nor cabbages where the proportion of nitrogenous matter is very small. In some cases, indeed, superfluous matter which could never pass off by the stomates, is stored up in the cavities of the cells, as the crystals of oxalate of lime which form such a prominent and interesting feature in the leaf cells of figs, hops, and many other plants, the raphides with which so many vegetable cells are gorged, or the carbonate of lime in charads. There is no reason to believe that these matters are deposited with a view to any ulterior use, as is the case with the magazines of starch, &c., which are intended to perform important functions at some future and often distant period. Other matters, however, may be present in the soil or atmosphere which are never requisite for health in any proportion, and which in themselves may be destructive. Different as vegetables are from animals in a multitude of respects, there are species which so closely resemble each other, that it is difficult to say to which great division of the organized world they really belong. Both these exhibit vital phenomena, and we may presume, therefore, that the principle of life, however it may be modified, is essentially the same in each. If proof, however, were wanting in other respects, the identity of the effects produced by many vegetable and mineral poisons upon plants and animals would alone be sufficient. Whether we take the principal organic poisons, as opium, hydrocyanic acid, chloroform, &c., or inorganic, as arsenic, hydrochloric acid, iodine, &c., we find that the effect produced is essentially the same, in some cases affecting the functions, in some the organic structure. Opium, hydrocyanic acid, chloroform, &c., paralyze or suspend the functions of vegetables, precisely as they do those of animals without injuring the delicate tissues; while arsenic, lead, &c., more or less impair their structure. Nor is gaseous matter indifferent; the comparative barrenness of fens, at least as regards the majority of the natural order of plants, depends, in all probability, on the condition of sulphuretted hydrogen; the impure carburetted hydrogen of gasworks is notoriously injurious to trees, as is also the emanation from certain chemical works, which reduce their immediate neighborhood to a treeless wilderness. The mischief may, in many cases, be purely functional at first, but the suspension of functions, especially if long continued or often repeated, except where it is of the nature of sleep, is apt to induce active disease, or the destruction of particular organs, which may in the end prove generally fatal.

It is, however, curious what concentrated poison some vegetables are able to endure. Moulds flourish in arsenical and other mineral solutions, which might have been supposed utterly incapable of sustaining any vegetable. One species is the source of great annoyance in electrotyping, as in the Map Office of the United States of Washington. The sulphate of copper is deprived of its copper by the mould, which assimilates the sulphuric acid while the copper is deposited as a thin, metallic pellicle on its walls. A fungus again flourishes in the water of tan-pits where no phanogam could exist.

Though the action of many poisons upon plants, as opium, prussic acid, chloroform, &c., may be considered by the cultivator as mere matters of curiosity, which can never call for any especial treatment at his hands, it is most important that he should attend to the principle involved in them, for, if so, he will not over-manure his plants or trees. However beneficial the substance may be when properly administered, he will not use coarse, putrid manure as is the fashion with some, of treating vines, the most delicate, perhaps, of fruits, and the most easily impaired by injudicious treatment, nor will he be indifferent to the quality of air with which his houses are supplied. Ventilation will be of little use if poisonous vapors are constantly rising from beneath, and these are sometimes so intense as to produce at once visible evil.

It is very doubtful whether plants are capable of rendering ground noxious by excretion from their sound and entire roots. It is, however, easy to conceive that such plants as poppies, if ploughed green into the ground in considerable quantities, might prove injurious.—M. J. B., in *Gardeners' Chronicle*.

THE following article is taken from a French paper :—

"Few people form an exact idea of the importance attained by many branches of our rural industry, such, for example, as the product of eggs. France sends every year to England about 7,780,000 kilogrammes of eggs, say 717,160,000 eggs, at a calculation of twenty-two for the kilogramme. Reckoning that a hen lays 100 eggs in a year, which is a fair average, it will be seen that this exportation is the produce of 1,711,800 hens. Our importations from other countries are only about 66,000 kilogrammes, and about the eighth of those sent to England are supplied by Belgium, and the Sardinian States. As for the consumption in Paris, it is not less than five or six millions of kilogrammes—that is to say, from 110 to 132 millions of eggs."

It will not be said there is not a demand, when it is proved that so many millions are consumed over and above what the country can produce. Our own poultry-keepers have a great advantage over foreigners. They have no freight, duty, nor expensive packing. Their market is always close at hand. A still greater advantage is, that the expense incurred by the foreign exporter, in collecting from Belgium and Sardinia, is just so much encouragement to ourselves.

The first idea that strikes us is, that, in many large farm-yards, many more fowls might be kept, without causing extra expense. Let us admit that the occupier is not a poultry fancier. A hen lays 100 eggs, and they are worth at least five shillings; a hundred hens will then pay, in eggs, twenty-five pounds. But, with care in selecting the breed and the birds, they may be made to produce more. We say nothing of food, because the fowls bred at a farm will more than pay any expense. Near a large town, where there is a demand for new-laid eggs in the winter, and at the commencement of the spring, they will realize much more than we have stated above.

We will say nothing of the other mode of making poultry profitable, as we have so lately treated of it. We desire only to call attention to the fact, that a great demand exists, that all the advantage is on the side of the home producer, while his inattention to it throws it into the hands of others who are more careful to look at small matters.—*Cottage Gardener*.

THE EXETER NURSERIES.—The city of Exeter is in the West of England, and is about 200 miles on the Great Western Railway. We very recently visited the two Exeter nurseries; that of James Veitch and Son was the first to which our attention was directed. This is one of the largest and best kept nurseries in the kingdom, in which will be found full collections of all the principal classes of plants in cultivation. Here you find growing luxuriantly such plants as *Piptanthus nepalensis*, *Elaeagnus*, *Pittosporum*, and a number

of shrubs and plants that are treated as greenhouse plants in the more rigid north. Devonshire is indeed a favored locality, and a number of shrubs and plants live out during the winter, that, with us, and especially further north, require considerable shelter, and in some cases, greenhouse protection. In the open ground are to be seen growing freely, large patches of the rarer sorts of *Arbutus*, *Hollies*, *Photinias*, and many of that better class of shrubs too seldom seen and cultivated; and a large collection of *Conifers* are grown here, and we noticed a very beautiful specimen of *Araucaria imbricata*, with the same regular symmetrical form as the famed Dropmore specimen. How such an exquisite tree must tempt many to become a purchaser of one or more of this noble plant! Many fine specimens of *Conifers* are to be seen, and our attention was attracted by two varieties of *Cupressus Lambertiana*, one throwing its shoots in a horizontal direction, and the other maintaining an erect and close growth. Both varieties are handsome, and appear to be equally hardy. A small plant of *Picea amabilis*, which promises to be a noble companion for *Picea Nordmanniana* and *Nobilis*; and small plants of *Picea grandis* and *Bracteata*, both of which give promise of great beauty, are also planted out. These three species will prove valuable additions.

Close by the nursery is the private residence of Mr. Veitch, in the garden belonging to which are some new species of *Conifers*. In a sheltered nook, close by the dwelling-house, the beautiful *Eugenia ugni* had ripened its fruit, which is of the size of a large black currant. It is our impression that the *Eugenia ugni* is destined to become an important plant, and that it will be much valued and cultivated for its fruit, for when perfectly ripe, the flavor bears a close resemblance to a good pine-apple; in fact, it is a rich aromatic and indescribable flavor, being something between that of a good pine and the *Hautbois* strawberry, and even in gathering this rich odor is left on the fingers. In the *Camellia* house is a large plant of the *Lapageria rosea* trained over a portion of the house, and had then several of its rich scarlet blossoms fully expanded. It is a most valuable and beautiful climber, and seems to do best in a soil composed chiefly of peat and fibrous matter. This plant is not sufficiently known yet, for on its first introduction many were puzzled as to the treatment it should have, and in some instances it was treated as a hothouse plant, and in others as a greenhouse plant. A cool and shaded situation seems to suit it best, and when planted out in a border in a *Camellia* house, or in a cool and shady conservatory, it will no doubt do well. In the same house *Fuchsia pendulina* was in full bloom, and the *Camellias* were in most luxuriant health, and covered with a profusion of plump buds, such as are not often seen. *Geraniums* are grown very well here, a house being devoted entirely to specimens. We noticed at the outside end of one of the houses a large plant of *Fuchsia Dominiana*, that had been flowering freely, and was now cased for the winter. This is really a valuable winter blooming conservatory plant, but somehow or other it is sadly mismanaged at times. It should be grown freely early in summer, and then checked, and its wood ripened early in autumn, so as to induce freedom of blooming in winter. Two or three houses, devoted expressly to new and rare plants, many of which are not yet proved, are of the greatest interest, as well as one or two private gardens, in which new shrubs, herbaceous plants, &c., are planted for proving. In one of these, we noticed the true *Embothrium coccineum*, which has a broad leaf, and was well set with flower buds, and is quite hardy. We have, however, seen another species with a narrow leaf, under the same name, but the latter seems to be *Embothrium salicifolium*, and is not hardy. We also noticed a new hardy herbaceous plant named *Phygelium capense*, which of course was not in bloom at that late season of the year, but we were told it was a welcome addition to this very useful class of plants, as was a new scarlet hardy *Delphinium cardinale*, the entire stock of which is in the hands of Veitch and Son. Will not this plant indeed be a valuable acquisition? The beautiful little *Leptodactylum Californicum* was blooming freely, and

seems to require the same treatment as *Roallia ciliata*, and is a delightful winter blooming plant. In the Orchid house the charming little *Sonerila margaritacea*, with its spotted foliage and pale pink flowers with bright yellow stamens, was blooming freely, and the various species of *Anæctochilus* were growing freely in a much drier atmosphere, and with less nursing than we generally see adopted, and which seems to be quite unnecessary. In this house was the beautiful *Ouvirandra fenestralis*, or lattice plant, immersed in tepid water, and growing luxuriantly. What an interesting plant this is! the leaf being so totally different to that of other plants.

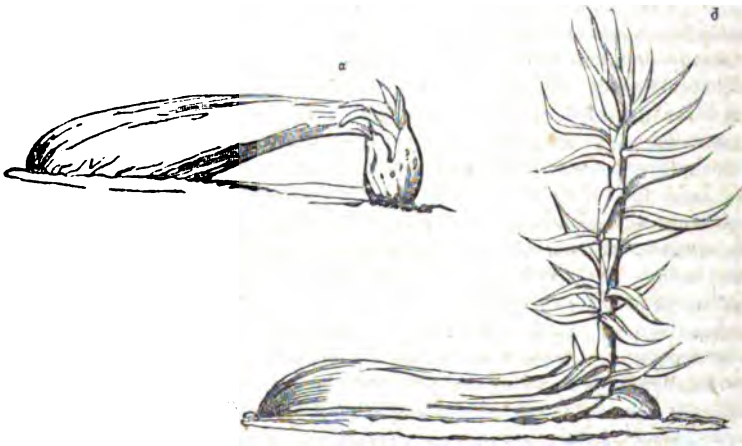
Close to the principal entrance of Lucombe, Pince and Co.'s home nursery, is the original Lucombe Oak, now a noble tree, the trunk of which is several feet in circumference. At the entrance to the show house are two superb pyramidal Irish Yews in tubs, and in the show house, 120 feet in length by 18 feet in width, was a display of flowers such as we seldom meet with at this dormant season of the year. Several fine plants of *Fuchsia Dominiana* were in full bloom, as well as *Primulas*, *Chrysanthemums*, and other blooming plants. Several plants of the Pampas Grass in bloom were grouped among other things, and produced a very pleasing effect. Close by is the Camellia house, a noble structure, 240 feet in length by 24 feet in width, and filled with splendid specimens of Camellias loaded with buds. Passing through the Camellia house we enter upon the Rockery, situated in a circle, the diameter of which is about 150 feet, and inclosed by a thick laurel hedge, several feet in height. Here is to be found a piece of rockwork, arranged with truly artistic skill. What once was an ordinary basin for a fountain, has, by the skilful arrangement of large blocks of stone, been converted into rocks and caverns, between which a stream of water passes gently on. A natural ruggedness is thrown over the whole, and various plants suitable to the locality are charmingly interspersed. It would shame half of our landscape gardeners of the present day. At one side of the rockwork is a splendid specimen of the majestic Pampas Grass, about ten feet in height, and possessing twelve fine spikes of silvery feathers glistening in the sunshine. What a noble ornamental hardy plant for a lawn, with its handsome drooping foliage! Here, too, is a noble specimen of *Pinus insignis* full 40 feet through, and about 50 feet in height, a fine specimen of *Pinus Sincclairi*, 8 feet high; *Pinus macrocarpa*, 15 feet high, and a beautiful specimen of *Biota japonica*, 8 feet high. On the rockwork are *Desfontania spinosa*, *Skimmia japonica*, and other new and ornamental plants. By the side of a long walk, reaching nearly half a mile, are superb specimens of *Pinus insignis*, *Abies Douglassi*, *Picea Nordmanniana*, and various other valuable Conifers, planted in large tubs composed of stout pieces of wood, banded tolerably close together so as to admit of a partial egress of the roots, and to insure the safe removal of the specimens, as many of the *Pinus insignis* and other conifers are of considerable height and size. At the end of the walk is a small Pinetum, in which we observed one of the finest specimens of *Picea pinsapo* we have ever met with.

This nursery is remarkable for the immense stock of conifers it contains. There are large quantities of *Araucarias*, all handsome well grown plants from 2 to 6 or 7 feet in height, large quantities of *Pinus cembra*, *Juniperus sinensis*, Irish Yews of all sizes; and, in short, the finest stock of conifers in the kingdom. Great attention has been paid to standard Portugal laurels, of which a quantity is to be seen with clean straight stems, and symmetrically trained heads. Heaths and greenhouse plants are well done and extensively grown here. We noticed the fragrant and beautiful *Luculia* in full bloom, as well as the graceful winter blooming *Thyracanthus rutilans*, with its pendent racemes of scarlet blossoms. Here also was a good plant of the *Bouvardia longiflora*, with its clear white *Jasminum* like flowers. It is a charming winter blooming plant, and is very valuable for bouquets; there is a fine collection of Orchids here, several of which were in bloom.—*London Florist*.

EDITORS TABLE.

EVILS OF DEEP SOWING.—In many seeds, the vital principle is so strong, that to scatter them upon the soil is sufficient to insure their speedy germination; but in others, the power of growth will only manifest itself under more favorable conditions. Moisture is necessary, but not an unlimited quantity; if a seed is thrown into water, and exposed to a proper temperature, the act of germination will take place; but, unless the plant is an aquatic, it will speedily perish; no doubt, because its powers of respiration are impeded, and it is unable to decompose the water it absorbs, which collects in its cavities, and becomes putrid. There must, therefore, be some amount of water, which, to the dormant as well as the vegetating plant, is naturally more suitable than any other; and experience shows that quantity to be just so much as the particles of earth can retain around and among them by the mere force of attraction. To this is to be ascribed the advantage derived from those mixtures of peat, loam, and sand, which gardeners prefer for their seedlings; the peat and sand, together, keep asunder the particles of loam which would otherwise adhere, and prevent the percolation of water; the loam retains moisture with force enough to prevent its passing off too quickly through the wide interstices of loam and peat.

Under what depth of earth seed should be buried, must always be judged by experience; but it should be obvious that minute seed, whose powers of growth must be feeble in proportion to their size, will bear only a very slight covering, while those of a larger size, and more vigor, will be capable, when their vital powers are put in action, of upheaving considerable weights of soil. As the extent of this power is usually uncertain, the judicious gardener will take care to employ for a covering no more earth than is really necessary to preserve around his seeds the requisite degree of darkness and moisture. An erroneous opinion prevails that seeds must be "well" buried, in order that the young plants may have "sufficient hold of the ground." But a seed, when it begins to grow, plunges its roots downwards, and throws its stem upwards from a common point, which is the seed itself; and, consequently, all the space that intervenes between the surface of the soil and the seed, is occupied by the base of the stem, and not by the roots. The seeds of the *Araucaria* illus-



Germination of *Araucaria imbricata*; a, the seed after it has inserted its radicle in the soil, the stem and leaves just appearing; b, the same seed, at a later period, firmly fixed in the ground by its roots.

trate this, as remarked by Professor Lindley; they always grow best when merely laid on the surface of the soil with a little earth raised round their edges.

The finest oaks spring from acorns dropped in the forest, and covered by a few leaves. The sycamore, the ash, the beech, the horse-chestnut, &c., will all sow themselves wherever their seeds can stick to the ground, until a coverlet of leaves is moistened by an April shower, and warmed by an April sun. Neither have such seeds any difficulty in steadying themselves by their roots; a fang is driven by a vital impulse into the earth, and it is to that, and not to the buried neck of the stem, that the seedling trusts for support and nourishment.

It is not a little remarkable, that not only do seeds germinate unwillingly if buried too deep, but that, although they may grow, they cannot, even if forest-trees, develop with vigor for many years. Atmospheric air, which is indispensable to germination, is too much excluded; the injury is not from the superincumbent pressure of the soil.

Thouin, in his *Cours d'Agriculture*, remarks, that small seeds should be covered only a line deep, with earth spread very loosely; seeds, of the size of peas and beans, about three-quarters of an inch deep, and the bulky seeds of our fruit-trees, such as the apricot, nuts, peaches, almonds, with from two to three inches of soil.

"*The Flower Garden, or Breck's Book of Flowers*," is the title of a large duodecimo, published by J. P. Jewett & Co., of Boston, and a very good hand-book it is, being a revised edition of the one published in 1851. It contains a chapter on the cultivation of plants in the parlor, which we recommend to the ladies.

Gardening for the South.—Mr. William N. White, of Athens, Georgia, one of the esteemed correspondents of the *Horticulturist*, has written, and C. M. Saxton & Co., of New York, have published, a very clever book with the above title, which we desire to make fully known in the large section of country for which it is designed. It is an able manual, with directions for a practitioner in the kitchen and fruit garden, together with hints upon landscape and flower gardening. Mr. White is a practical man, and his book is evidence that he knows what he inculcates; if it is well studied and followed, it will prove a blessing to a land where some climatic influences should be counteracted which render the northern books unsuited to the wants of the learner. We hope to see many editions of this work, because it fully deserves a large popularity.

Michigan Agricultural Society.—"A little farm well tilled, a little house well filled, and a little wife well willed, are three most desirable objects," says Mr. J. S. Tibbits, in the *Transactions* of the Michigan Agricultural Society, a large octavo volume for 1854, which has been kindly sent to our table by J. C. Holmes, Esq., its industrious and intelligent secretary. Like the Illinois *Transactions*, already noticed, the work is full of intelligible facts, and is a highly important contribution to the agricultural literature of the country; we pronounce it a big book well distilled.

It embraces the Annual Report of the State Society, and takes up in detail the proceedings of the subsidiary county societies, reports of the great fair, and of the county fairs, statistics of farming, addresses delivered in various places, and incidentally strong arguments in favor of a State Agricultural School, that cannot be gainsaid. Lands in abundance belonging to the State are at its disposal, and we do not see how its legislators can help themselves from prosecuting so truly valuable a scheme; a scheme which is, or must be adopted and patronized by every progressive State.

One of the reports alludes in strong language to the exhaustive process of perpetual cropping; this sad but common error the farmers are becoming aware of, but do they realize that the system of impoverishing our lands, without sustaining their natural strength and fertility, will, sooner or later, end in barrenness? and that if the present population may rightfully exhaust one-third part of the arable lands of the United States of their natural fertility, the population which will be here at the close of the present century will, long before that period, have consumed the remaining two-thirds of all American territory? By a calculation which has appeared in a late report of the Patent Office at Washington, it is estimated that *one thousand millions of dollars* would not more than restore to their original richness and strength the *one hundred millions of acres of lands* in the United States, which have been already exhausted of their fertility! As a nation of farmers, is it not time that we inquire by what means, and on what terms, the fruitfulness of the earth and its invaluable products may be forever maintained, if not forever improved.

Agricultural schools would furnish all classes an opportunity to acquire a definite knowledge of all the known principles by which agricultural pursuits should be conducted. We

have a more perfect state of civil and religious liberty than Europeans. Even the most free of those nations have a State religion to support, and therefore have no religious liberty; we have no great distinctions of caste which prevail abroad; we are comparatively free from taxes, and can therefore be more liberal to schools; the cultivators of the soil here are usually the owners of it, while the laborers in Europe have little concern in the matter, and take but little interest in getting up schools; nay, they are ignorant enough to oppose them, lest they should so improve agriculture as to diminish their wages. But there is no need to pursue the arguments so well enforced by this volume.

The advantages of railroads to an interior, are forcibly argued by several of the contributors, one of whom, alluding to the old wagon mode, which obliged the farmer to take his produce himself to market, adds: "He thus risked the temptation to appropriate a part of the proceeds for liquid returns which frequently floated off a goodly portion of the proceeds of the harvest, as, possibly, some of you have had occasion to know." In other words, the iron transporter don't drink whiskey! an advantage we had never thought of before. It was soon found, too, in regard to live stock, that a steer worth \$60 or \$70 at the Bull's Head in New York, cost no more for carriage from the oak openings of Michigan, or the prairies of Illinois or Indiana, than one worth but \$35 or \$40, and shrewd dealers discovered that they could afford to pay a better price for good animals of improved breeds than they could for inferior. So it is that farmers opposed to progress have been obliged to move off, and leave the field to the improvers, and a race of thoughtful, active men is usurping the old fogies. To be a successful farmer now, one must learn things that were never taught or even dreamed of by the plain, straight-forward, strong-handed men, who had hewn their way to a home, axe in hand, and who were still contented with the work of the old-fashioned wooden plough, and the equally antique triangular harrow. Progress has become a necessity, which these western *Transactions* chronicle and promote.

In 1835, there was but one periodical in the Union devoted solely to the interests of agriculture; now they are almost as numerous as the States themselves. The example of the New York State Agricultural Society has aroused the minds of the farmers to their true interests; State after State came into the ranks; communities and counties marshalled their companies of independent yeomanry and wheeled into line; now, all are actively engaged in battling the common enemy—the allied legions of ignorance and error. Twenty years ago there was no opportunity of learning what is now learned each year from the published reports of societies, in relation to the improvements being made in the methods of tilling the soil; or of examining new implements, or of comparing the merits of the various breeds of foreign and domestic animals, or inspecting the grains, fruits, and vegetables of the best known descriptions. Whoever has attended a State Fair, with his mind awake, and his eyes open, will never despair of the Republic; whoever reads these *Transactions* attentively will rise, from their perusal, a wiser and a better man.

Gossip.—The name of *Larkspur* has been given, in consequence of the horn-shaped nectary of the flower, being in form like the spur of a lark's foot. There are many beautiful varieties now cultivated.—Some idea may be formed of the prodigiously increased drain upon the functions of a plant, arising from an increase of dryness in the air, from the following consideration: If we suppose the amount of its perspiration, in a given time, to be 57 grains, the temperature of the air being 75°, and the dew-point 70°, or the saturation of the air being 849°, the amount would be increased to 120 grains in the same time, if the dew-point were to remain stationary, and the temperature were to rise to 80°; or, in other words, if the saturation of the air were to fall to 726°. Besides this power of transpiration, the leaves of vegetables exercise also an absorbent function, which must be no less disarranged by any deficiency of moisture. Some plants derive the greatest portion of their nutriment from the vaporous atmosphere, and all are more or less dependent upon the same source. The *Nepenthes distillatoria* lays up a store of water in the cup formed at the end of its leaves, which is probably secreted from the air, and applied to the exigencies of the plant when exposed to drought; and the quantity which is known to vary in the hothouse is, no doubt, connected with the state of moisture of the atmosphere.—Double glass sashes are recommended by some writers. The lights of many frames not in use, in winter, might be fitted to slide over the hothouse during the severe season; and, in the spring, their places might be supplied by night mats, or canvas.—The Tamarisk, a very beautiful plant, not much known in America, should be planted in the shrubbery, to mix with broad and fixed foliage, as the laurel or holly. It is also calculated to cover the sides of hills, where it is desirable not to take off the view by taller trees; in marine gardens, it soon acquires sufficient height to protect rose-bushes, and other low flowering shrubs. The Tamarisk is deciduous, although, when in

foliage, it has all the character and appearance of an evergreen shrub.—The *Whitlavia grandiflora*, among new hardy annuals of recent introduction, ranks with the prettiest. It is a native of California, and grows from nine to eighteen inches high, branching freely, and blooming profusely, if not in a very rich soil. The flowers are bell-shaped, of the richest gentian-like blue color, with a tinge of rose inside. Each blossom is an inch long, and an inch and a half across the mouth.—The Lily of the Valley does not grow well in very rich or very dry soil.—UNIVERSAL COMPOST. Turf cut from an old loamy pasture, such as is used to lay down for lawns, about three inches thick, and laid in a heap to rot, is invaluable. This rubbed through a sieve that would let a hazel-nut through, two barrowfuls; *peat earth*, full of fibre of a spongy, light nature, used for heaths, half a barrowful; and *cowdung* rotted into mould, half a barrowful, with a sprinkling of *white sand*, and small pieces of *charcoal*, well mixed together, form a compost for almost everything.—To kill rats and mice, out cork into thin slices, and fry them in fat, butter, or meat gravy; the animals are very fond of them, but cannot digest them. They are equally destructive of cats and dogs.—Observations which have extended over many years, prove that with the seasons the solar powers are, relatively to each other, subject to an interesting change. In the spring, the *actinic* power prevails, and during this period its agency is required for the development of the germ. As the summer comes on, the actinic rays diminish, and those of light increase. We see the necessity for this, since luminous power is required for the secretion of carbon, with which the woody fibre is formed, and also the approximate principles of the plant. Autumn, the season of fruit, is characterized by the increase of the heat rays, and a diminution of the others; this change being necessary, as science now teaches us, for the production of flowers and fruit.—There are now cultivated, pink and red fuchsias, with white corollas, and a scarlet sepal, and snow-white corolla.—A garden can be kept in constant bloom by cultivating larkspurs, lupins, coreopsis, sweet peas, nemophila, mignonette, convolvulus minor, and such like plants, in small pots, very few seeds in a pot, and lightly covered; give plenty of water. These, with care, will grow strong and healthy, and may be used to fill up the places vacated by others that decay. The removal of a plant, and filling its place with one in good order, is only the work of a minute.—The *London Gardeners' Chronicle* of April 12, first inserted a brief notice of the Lawton Blackberry. Dr. Lindley might safely read one or two American periodicals.—Another English paper, devoted to horticulture, says: "A correspondent asks whether any attempts have been made to cultivate and improve the common blackberry, and he wishes to know whether any of our readers can 'show any just cause or impediment' why a fruit should not be produced as much superior to the present as a Ribstone pippin is to the original crab."—Italian rye-grass is much cultivated now in England, and the price of the seed has nearly doubled, so that orders can scarcely be supplied.—Great frauds in the seed trade have excited much remark in the London papers. By means of steam, sulphur, and old age, all sorts of rubbish are made to pass for articles of sterling value; dead rape does duty for turnip-seed, and so on. London is getting a very bad character for adulterations.—On the wall of a conservatory camellias may be trained, say varieties such as *colvillei* and *imbricata*, both of which flower at one time, and their blossoms being of different colors, contrast admirably with one another. Camellias managed in this way make charming coverings for walls, and where a border for planting them in does not exist, boxes either of slate or wood answer the same purpose. If made of the former material, they are of course more durable than if wood is employed.—William Minards, of Palperro, says the *Cornwall Gazette*, has in his possession a cat that is very expert in catching trout and eels. When the water is low in the river that runs down the valley, near the outlet of which is built the little town of Palperro, the cat watches on the margin of the river, and, when any of the finny tribe approaches within her reach, she lays aside the natural dislike that is common to the feline race, that of wetting their feet, and instantly darts her paws into the water, and fixes her talons in her prey, brings it from its natural element, and carries it in triumph to her master's house. This feat she will repeat several times a day.—A Scotch newspaper declares that the following rather remarkable circumstance is worthy the consideration of poultry breeders. A duck, rather under the ordinary size, belonging to Mr. Hay, of Laggan, has this season deposited an egg every day for one hundred and forty-three days in succession. The little useful animal was hatched from the egg of a wild duck, and laid an enormous number of eggs last year. Might it not add to the profits of the poultry-yard if similar experiments in breeding were oftener tried?—Orchard-houses for peaches, &c. &c., are now the rage abroad, and are even penetrating into the far north of Scotland.—*Picea Nordmanniana* succeeds perfectly, grafted on the Silver Fir.—"The Blood Manure Company" is introducing a valuable manure, made from the blood of animals. It is highly recommended for wheat, barley, oats, &c. This substance is lost in America, but steps should

be taken to use it.—Among the score of plants which show the effects of the different modes of *Grafting*, the most useful to know is, that all the rare *Pinuses*, or, rather, the whole race of *Conifers*, should be grafted down as low as the collar of the plant which is used for a stock; then, by planting such grafted plants sufficiently deep to bury the grafted part, roots will come from the scion, or graft, in time, so that the plant, ultimately grows on its own roots. This is really a useful lesson.—Perhaps the most interesting object which has lately flowered abroad is a new *Camellia* from China, discovered and sent home by Mr. Fortune. It is a carnation striped kind, very different, however, from any we have hitherto possessed, inasmuch as the stripes, rosy pink, are much more brilliant than in any variety we now have of this class, and the general outline and form of the flowers are all that the most fastidious in such matters could desire. This, therefore, must be regarded as an acquisition of no mean importance. It may be mentioned that the plant which has flowered, was half-starved, and nearly destitute of foliage; therefore the blooms, handsome as they are, may be expected to be much more so when produced by healthy specimens.—There is, perhaps, more injury done in a mild winter than in a severe one, amongst the tender or half-hardy plants which the gardener has to deal with; for it not unfrequently happens, that a period of dull, mild weather, throws the inexperienced off their guard, and towards the middle, or it may be earlier, a sharp frost sets in suddenly, carrying death and destruction to many things which had looked not only healthy but luxuriant. A mild winter is seldom followed by a genial spring; the consequence is, that plants which have survived, perhaps, in the open air, are often killed.—Hartweg declared, that a woods of *Pinus Benthamiana* was the finest thing he saw in his extensive travels. It is now much planted on the hills of Scotland.—*Thuja gigantea* is one of the most singular trees; it is not unlike *Sequoia gigantea*, only it has not so much of a cypress look. Like the *Sequoia*, it is a Californian tree, of great size and beauty, attaining the height of one hundred and eighty feet, the lower eighty feet of which is as bare as a May-pole; but, with us, we shall not see it thus in our day.—Another remarkable Conifer, from Asia Minor, is *Thuiopsis borealis*, a fine, graceful-looking tree, and said to be very hardy. The Wardian Case has brought over a large batch of seedlings of *Araucaria Cookii* to the other side of the world, and there they are as if they were sown on the spot.—In Holland, no table is without cooked Endive, and almost no day in the year. It is the most universally popular dish in the country, and the most savory morsel. But the method of preparing it is somewhat different from that given by you. Take two good Endives, not blanched, separate the leaves, and boil them in two waters (to extract the bitter). If still bitter, use a third water, but ten minutes before they are ready, throw in a handful of Sorrel leaves. When ready, take them out and strain them, and put them back in the saucepan with a piece of butter, the size of a walnut, pepper and salt, q. s., and a tablespoonful of any rich gravy. Shake them well over the fire till all is incorporated, and send them in hot. On no account chop the leaves. *Iota*.—The appropriate name of one of the exhibitors of the London Horticultural Society, is *Cutbush*.—The *Southern Cultivator* says: "We believe, from all the lights before us, that *more wine*, and of *better quality*, can be made on a given quantity of land in the South, than in Europe or at the West, and that the *Catawba* is by far our most promising grape for the purpose. We must not, however, be confined entirely to this variety, as the *Warren*, and, perhaps, the *Isabella* may be found to produce wines which cannot be made from the former."—Robert Nelson, in the same periodical, pronounces a new seedling peach, of Georgia origin, and called the Pocahonts, the finest he has ever eaten.—Tansy, planted round the peach-tree, is obtaining favor as a remedy against the borer.—A good oil can be produced from the seeds of cotton, but they are too valuable for manure to be extensively employed in this manner.

Colombian Guano.—The Philadelphia Guano Company have introduced, this spring, the Colombian guano from the Venezuelan islands in the Caribbean Sea, and, from the analysis of the article, it is pronounced the best fertilizer of the kind yet discovered. The best contains *eighty per cent.* of phosphate of lime. Professors Stewart and Booth have analyzed various specimens, and give certificates of the above fact. It is estimated that the islands referred to contain an amount exceeding five millions of tons; some of the deposits contain a very large percentage of ammonia, while in that of others the superphosphate of lime predominates, with but a small amount of ammonia. One analysis of Professor Booth gives 78 per cent. of superphosphate of lime, which is nearly fifty per cent. greater than that obtained from bone dust.

A long lease of the islands, including the famous Bird Island, has been obtained by the Philadelphia Company. Their guano has been tested by farmers in Maryland to a considerable extent; Dr. Stewart, chemist of the Maryland State Agricultural Society, says:

"Highly as I appreciate the Mexican guano; still I do not hesitate to say that I would rather have four tons of Colombian than ten tons of Mexican, and I would rather have equal portions of Colombian and Peruvian applied to any wheat than Peruvian alone, or any other superphosphate alone."

The price is for	1 to 5 tons cash for 2,000 lbs.	\$40
"	" " 51 to 100 "	35

The agents in this city are Richards & Miller, 92 South Front Street, of whom large or small quantities may now be procured. We recommend its trial by farmers and horticulturists. For the Pear-tree it will be invaluable.

Flora of the Colosseum at Rome, is the title of a London volume, by Dr. Richard Deakin. The author says that 420 species of plants are found growing upon the Colosseum, including 263 genera, and illustrations of 66 of the natural order of plants. There are 59 species of grasses, 47 of the syngenesious plants, and 41 of the pea tribe. This is in an inclosed space of six acres of ground, a limit that does not include the walls and ruins. This space includes a great variety of soil and temperature. The lower north side is damp, while the upper walls and accumulated mould are warm and dry; and the south side is still hotter, and more Italian. Strange mutation that one of the most innocent and poetical of the sciences should now choose the Colosseum for its favorite haunt, where the swarth Egyptian, the agile Moor, and the crisped-haired Nubian, struggled and died amid the shouts of Romans, uproarious in their holidays, the more delighted, the more savage the scene!

BEURREÉ CAPIAUMOUT PEAR.—A correspondent writes: "I have been much edified, nay, instructed, by Dr. Ward's chapters on Pears. I believe the Duchess d'Angouleme bears more abundantly, in a young state, on the quince than any other kind, except, perhaps, Beurreé de Capiaumont, which, wherever I have met with it, shows its decided preference for the quince, by uniformly producing large crops of very handsome and good fruit on it."

TRAVEL AND HEALTH.—*The Virginia Springs*.—If one of the great pleasures of travel is novelty, and observing changes in modes of life and modes of thought, the Southerner should undoubtedly come Northwards, and the Northerner visit the South. The change affects the observer as much as a trip from London to Brussels. We speak the same language, but our usages are vastly different. A residence of a few weeks at the various springs of Virginia, offers inducements to the healthy of this kind, with a cool atmosphere, and a mixing with polite and agreeable people, whose thoughts, however, run in a refreshingly new channel, that leaves out much that we glory in—such as love of stock securities, and a never-ceasing talk of money. The railroad from Alexandria will carry you, this season, to the very doors of the Rockbridge Alum Springs, now all the fashion, where a good table, and a gentleman to administer to your society as well as comforts, give attractions of superior order. Then these Alum Waters do really cure some of the worst ailments of our fragile race.

A short ride by good stages conveys you to the Warm Springs—a bath in whose waters you will never forget, and a seat at whose table is a treat, even to the boarder at the Girard House. A little further are the Red Sweet, the Sweet, the Healing, the Hot Springs, and, further on, the Salt—a capital place, and, near by, the fashionable White Sulphur, where stages by the dozen arrive full of people who know perfectly well they must sleep on the floor; but fashion is omnipotent, and you must be seen there if you want to get a partner for life, or expect to be able to converse for the ensuing winter. A day's ride then brings you to the Red Sulphur, famous for curing consumption.

For our own comfort, we should be perfectly satisfied with the Rockbridge Alum, and could settle down there, for the season, on its venison and hot bread, making excursions to the Natural Bridge and the Peaks of Otter, without any regrets for tide-water or lobsters. There is here a daily mail, and a well-managed post-office. People who have never tried this summer atmosphere, have no proper notion of cool America in hot weather.

ANSWERS TO CORRESPONDENTS.—(H. M., Burlington, N. J.) Set your Azaleas for the summer in a cool, shady place.

Grapes, of the Isabella kind, may be kept till March, by packing them in boxes with alternate layers of ash-wood sawdust, and keeping them from frost. The boxes may be set one on the other, without any other covering. The sawdust of the ash imparts no flavor to the fruit.

(B. W. A., Boston.) The Kew palm house is 362 feet long by 100 feet wide in the centre, and 66 feet high. It is glazed with sheet glass, slightly tinged with green, the tint being

given by oxide of copper. This is to counteract the injurious effects on vegetation, arising from the use of white sheet glass. There are 28,000 superficial feet of hot water pipes. A high tower, at the distance of 550 feet, conveys the smoke; to this, flues lead under ground. The coal is brought in on a subterranean railway. In ventilation, and other matters, the building is equally perfect. Would that we had legislators alive to the importance of instructing the people in such matters, but they are all engaged in *horrible politics*.

HEN MANURE, AGAIN.—(H. D., Waterville, N. Y.) This is a powerful manure, equal in its effects to guano, or nearly so. Its "actual value" will depend in a great measure on the facility or otherwise of procuring different manures, and the nature of the soil to which it is to be applied. As a general reply to your inquiry, we might say it would be worth about fifty cents per bushel to you, and would be advantageously used wherever guano has been found beneficial. In preparing it for use, mix an equal portion of dry soil and some charcoal with it, and pulverize as much as possible.

PEACH BORER.—An Indiana correspondent writes: "A good plan to preserve peach-trees from the grub, is first to wire* them, then throw fine sand round the stem, three or four inches high; it preserves them from the grub, and they grow very fast. One of your subscribers takes this plan, and has no further trouble."

MATHEWS' CURCULIO REMEDY.—(P. B. W., Picton, C. W.) "What has become of Mathews' curculio remedy? Why don't the committee report?" Can't guess—probably because it is a *secret remedy*.

(HYACINTH BULBS.) "Will Hyacinth and other Dutch bulbs run out in this country?" Not if they are treated to the same care the Dutch florists bestow on them. To prevent their deterioration—indeed, to see them at all in perfection, they require to be grown in the open air, in sandy alluvial soil, well enriched with well decayed manure—cow-dung being found most advantageous. Forcing, or growing them in rooms or windows, weakens them to such a degree as to render them almost worthless for a second season.

ANGERS QUINCE CUTTINGS.—(H. S., Harrisburg, Ind.) You will only succeed with these by taking them off early in the fall—in your latitude before the 1st of October—and planting at once in rich, moist soil.

BELTS FOR SCREENS.—What are the directions for planting a belt of evergreens to screen one from his neighbors? There is in Downing's work, and through the *Horticulturist*, a lack of definite information as to the size and number of trees, and the distance between them. Can you give me a rule for a place of five acres, with a front of between two and three hundred feet?

M. P.

No better evergreen screen can be planted, for your purpose, than either the Norway Fir or the American Arbor Vitæ. If the first is employed, it will take considerably more space in your premises than the second, as the Norway Fir spreads its lower branches to a considerable extent; if this is not objectionable, plant them four feet apart, and when they have attained the required height, cut off the leaders annually, bring the whole to a conical shape, and you obtain a superb screen. If space is an object, employ the Arbor Vitæ; plant two and a half feet apart, and keep them well sheared to give a thick habit. If your climate admits, and the plants are to be had, a Juniper hedge, well kept, is extremely ornamental. We say nothing of the holly, because it is probably too slow in its growth, and as yet it is not to be had in quantities, though from the demand for the seeds the past season, it is evident that many are now turning their attention to its cultivation. Our correspondent is mistaken in stating the absence of this kind of information in former volumes of the *Horticulturist*—see, for instance, vol. ii. p. 492. 1848.

BURNT SOIL.—(P. B.) When you are burning the brush, trimmings, &c. &c. of your garden, make a semicircular mound with a few stones, and, as the heap begins to burn, pile on it as much of your clay soil as can be, and burn it. During the first day or two, but little care is required to keep the pile on fire; but after this, if the fire is not allowed to break through, and thus expand itself, it will spread through the whole heap, and a large amount of soil may be burnt by still adding to the top. Burnt soil of this description seems to possess even more nourishing properties than manure, and may be applied with great advantage to fruit-trees as well as garden "truck."

FIGS.—(S. T. T.) Figs require a poor soil; gravel, lime-rubbish, &c. is better than manure; to have a full crop, shallow, dry subsoils are the best, and the growth requires to be checked if fruit is wanted. Pinch off the new growth as you serve your pears.

* Our correspondent probably alludes to the plan of running a wire into the holes of any that may have already entered, to destroy them.

JAMES W. GRAY, of Ball's Pond, Fairfield County, Connecticut, has issued a catalogue of fruit and ornamental trees, vines, shrubs, &c., at very moderate prices, which we recommend his neighbors and friends to consult.

No. 4 of Dr. Ward's remarks on Pear Culture, will appear in July.

MECHAN'S SEEDS.—Mr. T. Meehan, who advertises his seeds of trees and shrubs, has been very successful in disseminating a large quantity of the esteemed varieties, which heretofore have been difficult to procure.

THE SEEDLING STRAWBERRY, noticed in Emile the Elder's pleasant story, we have cultivated for some years, from the stock of "Aunt Charlotte's" single seed. It is of the Alpine family, and all that Emile says of it we can confirm.

NEW ROSES.—James Pentland, of Green Mount Garden, Baltimore, has introduced, this spring, two new roses, for which he claims the following characteristics: "The Beauty of Green Mount is decidedly one of the most distinct and desirable acquisitions; it is a noisette, of rich, brilliant carmine color, very large and double (flowering in large clusters), and a very free bloomer, quite as free as the Hermosa, and of robust habit." "The Woodland Margaret is very large, pure white, and double, free blooming, with a lilac fragrance; blooms freely in the house;" both are now offered for sale for the first time.

UNITED STATES AGRICULTURAL SOCIETY.—The journal of the fourth annual meeting of the United States Agricultural Society for 1856, has been edited by the Secretary, W. S. King, and Part I. is published. It forms an important contribution, and we hope will be extensively read. Lieut. Maury's paper on the subject of Observations on Land with Regard to Climatic Influences, is full, as usual, of truth and practical import. This Society is pre-eminently useful, and its proceedings are replete with information. We shall take occasion to allude to them again.

IT IS A SETTLED MATTER, that the next exhibition of the United States Agricultural Society will be held in this city, on the 7th of October. The objects of exhibition will be horses and horned cattle, swine and sheep, agricultural implements, cereal and vegetable products, poultry, native fruits, and wines. We anticipate the greatest turn-out ever seen in America.

By the way, we have on our table the speech of the Hon. John Bell, of Tennessee, to the Senate, on the Naval Retiring Board, highly just to Lieut. Maury. At least, it was a *mistake*, which the Legislature should rectify, to pass an unjust sentence on our most scientific officer, one whom it is an honor to the country to honor. This mistake we look upon as no better than a *crime*.

THE VINE IN FRANCE AND MADEIRA.—At a recent meeting of the Paris Agricultural Association, its President, M. Chevreul, reported favorably upon the nature of the vine disease, and the probability of its speedy disappearance. The Society regards the disease as purely climatic; not denoting degeneracy in the plant, but as likely wholly to cease with the cessation of the atmospheric influences. An American vine-grower and proprietor in Madeira thinks differently; he has been under the necessity of ploughing up nearly the whole of his vineyard, and beginning afresh. So great, however, was his apprehension of finding the European vine degenerated and liable to the malady, that he has come to the determination of replanting with American vines, as of newer and more vigorous growth, and trusting to the climate to restore the character of the produce. We may thus receive Catawba wine from Madeira. Cincinnati must look to her laurels.

ALBANY AGRICULTURAL WORKS, ANNUAL CIRCULAR.—This is an important catalogue of Emery Brothers, with portraits and descriptions of a very large collection of farming implements, which, we should suppose, would be good reading to those interested. Such extent and variety of manufactures tell their own tale of progress.

GUANO CONVENTION.—There is to be a guano convention at Washington on the 10th of June, to protest against the Peruvian monopolies. The farmers are also determined to endeavor to have an agricultural department of the general government, which surely is just and proper.

THE WEATHER IN LOUISIANA.—A correspondent writes, that while the sugar-cane has been much injured in Louisiana, the orange-trees, which are usually killed with the degree of frost they have experienced, are entirely uninjured.

THE NEW YORK STATE AGRICULTURAL SOCIETIES' premium lists have been issued in a handsome form. The exhibition is to be at Watertown, Sept. 30, and October 1, 2, 3, after the Pomological Convention, at Rochester, on the 24th, making it convenient to attend both.

AGRICULTURAL EXHIBITION IN TENNESSEE.—There will be a "Grand Exhibition and Trial of Agricultural Implements and Machinery, at Nashville, Tenn., on the 4th and 5th of June, under the supervision of the State Agricultural Bureau."

EXPERIMENT WITH CHERRIES.—Some of our readers, it is hoped, will try the following mode of preserving cherries. It is from the last number of the *London Gardeners' Chronicle*, the note at the close being by the editor, Dr. Lindley:—

CHERRIES PRESERVED BY BURIAL.—On Monday last, I employed a man to excavate a portion of an old strawberry-bed, in order to sink a well some three or four feet below the surface. He found several cherries, plump, round, black, fleshy, and still retaining a sweet flavor. How long they may have lain there I know not. Certainly the ground has not been disturbed for four years, the period during which I have been in occupation. I intend trying whether they yet retain the power of germination, and beg to inclose two, which you may, perhaps, think it worth while to submit to a similar test. They appear to belong to the variety termed caroons. *C. A. Johns, Callipers, Herts.* [The specimens sent us quite answered to the above description.]

DOWNING'S MONUMENT.—MR. EDITOR: I was one of the original subscribers to erect a monument to the late Mr. Downing, and can say I never subscribed to anything of the kind with more pleasure. From the character of the committee who had charge of the plan, I have no doubt of its being well executed, but I, for one, should be glad to know the state of the affair, and cannot but hope it is nearly finished.

HORTICOLA.

We are pleased to be able to state, that a recent correspondence with the committee on this subject, enables us to inform "Horticola," and the other subscribers, that the monument is in a forward state, and will very soon be erected in the grounds of the Smithsonian Institute, at Washington, with suitable inscriptions. It is intended to express the refinement, and delicate taste and gracefulness of the mind and nature it is to commemorate under the form of a beautiful antique vase, covered with flowers in arabesque relief. We are assured it will be worthy its object.

EARLY PEACHES.—Mr. M. H. Simpson, of Saxonville, says the *Boston Transcript*, of last month, to-day exhibited, at the rooms of the Horticultural Society, a box of the "Early York" Peach. They were grown and ripened in his grape-house, on the principle of the "Simpsonian system of culture," viz: three crops in two years, which can be applied to peaches as well as grapes. The tree from which these peaches were plucked this morning, bore a crop in Messrs. Hovey & Co.'s Nursery, last September. The peaches on exhibition were grown in three and a half months from the time of starting. His grapes grown upon this system, are now fully ripe, and of a superior quality, the vines exhibiting no signs of having been overtaken.

JACKSON APPLE.—Mr. Wilson Dennis, of Appleback (what a capital place to grow apples), Bucks County, Pa., sends us specimens of the Jackson Seedling Apple, with the description, as follows: "Tree a good grower, and bears early; fruit always fair, which will keep till June, and is in season from December till May. Growth of the tree rather upright—young wood, dark brown." This apple is known and esteemed by pomologists—so much so, that Dr. Brinckle had a colored drawing made of it, and has given us liberty to publish it with a description by himself. We can speak very favorably of the taste of these specimens.

THE GARDENING BOOKS, and Books on Agriculture and Science, for sale by J. Q. A. Warren, of Boston, form a large and separate catalogue, embracing all the works on these subjects esteemed in this country.

RHOADS & GRAY, of Lyons, Wayne Co., N. Y., have issued a catalogue of their extensive fruit and ornamental trees, with a "wholesale list," to which they ask attention.

THE LIQUID FERTILIZER.—In 1852, the *Horticulturist* promulgated the mode of using a liquid manure that was highly popular, and we may add, extremely satisfactory.

It consisted in simply dissolving half an ounce of *sulphate of ammonia* in a gallon of water. Weak as the solution seems to be, if plants are watered with it daily they will die, but used once a week, the most beneficial results are observed on roses, strawberries, early peas, fuchsias, dwarf pears, dahlias; in fact, it suits all plants. One pound will make a barrel. The praise then given to sulphate of ammonia, caused it to be much sought for, and many druggists now have it for sale.

John Feast's Catalogue of new and choice plants visits our table, from Baltimore, and contains the usual varieties of the beautiful and useful. We should be glad if Mr. Feast would put pen to paper sometimes, and tell us what is doing in Maryland. Did the Camellias—any of them—pass the last winter *agreeably to themselves*, as it is said in former volumes of this work they *promised* to do. Let us hear about all this, and give us “a Feast of fat things.”

THE CROPS.—The fruit crop in this neighborhood is highly satisfactory. Pears and cherries never promised better; of peaches, too, we shall probably have an average crop, both in Pennsylvania, New Jersey, and Delaware. At the Northwest, and in Ohio, there is less to hope for. Of the grain crops, the best accounts reach us.

WODESWORTH, FISHKILL LANDING, 26th March, '56.

MY DEAR SIR: In looking over, last evening, a back volume of 1837 of the *English Gardeners' Chronicle*, I found the annexed directions as to planting trees, which seem to me so admirable, and so little known here, that I think them worthy of being quoted in the *Horticulturist*. I don't believe trees are ever planted so in this country—I at least never saw them, and yet, the philosophy is excellent. I remember seeing a small Deodar Cedar planted in this method at Eaton Hall, eight years ago, in holes 12 feet in diameter. Everybody, in this country, plants either in round or square holes.

Truly yours,

HENRY WINTEROP SARGENT.

“All trees ought to be planted in pits of prepared soil. These pits ought to be 4 to 5 feet deep, and not less than from 12 to 16 feet in diameter, or to occupy from 16 to 20 superficial yards of surface. The pits should be *neither round nor square*, but *star-shaped*, or cross-shaped, of such a form as would be produced by placing one equilateral triangle upon another, or two parallelograms across each other, so as to form a Greek cross.

“The object of departing from the *square or round form*, is to introduce the growing fibres of the young trees into the *firm and poor soil*, by *degrees*, and not *all at once*, as in the round or square hole method.

“When a tree is planted in the round or square pit, dug in hard, bad soil, it is much in the same situation as if its roots were *confined in a pot or tub*. The dovetailing, so to speak, of the prepared soil, and of the moisture which it will retain, with the hard, impenetrable soil by which it is surrounded, will gradually prepare the latter for being penetrated by the roots of the trees, and prevent the sides of the pit from giving the same check to these roots which the sides of the pot or tub do to the plant contained in it.”

This advice is so admirable, that I trust you will publish it for the benefit of the few, and, I regret to say, they are very few, who are willing to take the trouble and expense to plant properly.

H. W. S.

Fig. 1.

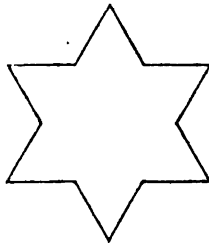
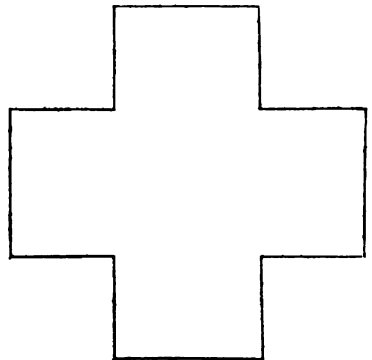


Fig. 2.



THANKS to Mr. Wm. Bright, for a collection of new and beautiful bedding-out plants. Mr. Bright is establishing a commercial garden and nursery near the city of Philadelphia (in fact, in it), from which good results may be expected. We have none too many—indeed, we doubt if there are half enough. Mr. Buist leads the van with his extraordinary variety, and if it were not for him, we should not have many of the *novelties* which make the members of our Horticultural Society a sort of pioneers in America. Others are active and intelligent, and we are glad to see Mr. Bright about to be added to the list. From Joshua Pierce, of Washington, we have his "Perpetual Raspberry," which is under trial by a jury of his countrymen, who will all rejoice if it equals his expectations. Mr. Snow's verbenas promise already more than could have been expected. Killwanger and Barry have kindly sent us two specimens of the great California tree, *Sequoia Gigantea*, in fine order, together with handsome plants of *Cryptomeria Japonica*, and the *Cupressus funebris*; the latter, in the form of young, unestablished plants, has not withstood the two last hard winters, but may yet be found hardy. The *cryptomerias* came out of their last trial better than usual, partly, we doubt not, from their increased age.

J. JAY SMITH, Esq.—DEAR SIR: As it is probable a number of your subscribers may possess the *Memorials of Bartram and Marshall*, published a few years since, the editor of that work would like to point out, while he may, some of his unlucky mistakes. Believing the *Horticulturist* to be an appropriate medium for the purpose, he begs permission thus to ask the owners of the volume to make, with a pencil, the *corrections* here indicated:—

At page 64, "the Virginian Guelder Rose" is inadvertently supposed to be the "*Spiraea opulifolia*, L."—when it was intended to write *Viburnum opulus*, L.! At pages 241, 244, 249, 258, and 411, a remarkable plant is mentioned by the names of "*Tipitiwichee*," and "*Tipitiwichee* sensitive," which the editor rashly conjectured might be "*Schrankia uncinata*, Willd.," or sensitive Brer: whereas, Prof. T. C. Porter, of Franklin and Marshall College, has conclusively shown, in the *Mercersburg Review* for March, 1850, that those names refer to the *Dionaea muscipula*, Ellis, now commonly called Venus's Fly-trap. At page 352, a "pretty kind of *Lychnis*" was heedlessly supposed to be the "*Arenaria stricta*, Michaux." It is not doubted, now, that the plant intended was the *Phlox subulata*, L. At page 422, a little "glorious evergreen" is mentioned; and, by a *lapse penne*, suggested to be "*Cyrella racemiflora*, L.;" whereas, it was intended, at the time, to write the true name, viz: *Ceratiola ericoides*, Michaux.

If these corrections may gain admittance to the "Editor's Table," or find a convenient place among the familiar "Gossip" of your valuable journal, the privilege will be esteemed a favor by your obliged friend and well-wisher,

WILLIAM DARLINGTON.

Westchester Pa., May 8, 1856.

HEDGES.—Before the *Horticulturist* for June appears, the season for setting hedges will have passed, and, consequently, enthusiasts will not be prevented from experimenting. Nor, indeed, is it desired by the record of the experience of the past unusually severe winter, to deter others from *demonstrating* the advantages of live-fence.

Occasional additions of plants—made necessary by depredations of mice—(*Aricola xanthognatus*), and annual trimming, having failed to produce closeness at bottom, part of the hedge (*Maclura aurantiaca*) was cut off near the ground, and headed in twice during the season. The effect was satisfactory. My ardent desire to succeed, after years of trial, was about to be realized. Alas, for ardor!

Three months' covering, three feet deep, of snow, and consequent revelling of mice underneath, has cured my enthusiasm. For yards together in extent, not a particle of bark was left, six inches above, and three below the earth.

My only alternative was to dig it out and burn it; the former accomplished, the latter to do. A beautiful and perfect hedge of Honey Locust (*Gleditsia triacanthos*), on the ground of a friend, is badly injured, if not ruined, by the same animal.

J. K. ESHLEMAN.

Downingtown, April 25, 1856.

Rochester, N. Y., May 2.—Fruit-trees are looking finely. Mice have eaten up whole orchards, nurseries, &c. We have but just *three* weeks in which to do our whole delivery for the season. Now we are planting with 250 men, having delightful weather for the work, and we are getting on finely. We have a good specimen of the Pampas grass—all in good time—and the *Eugenia Ugni*, but none for sale this spring.

Very truly, yours,

P. BARRY.

NEW YORK FARMERS' CLUB.—The Secretary read translated extracts from a paper in the *Revue Horticole* of Paris, Sept., 1855, by M. Klotzsch, of the Royal Academy of Sciences, Vienna, on the utility of hybrids. M. Klotzsch has crossed the *Pinus Nigricans* with the *Sylvestris*, the *Quercus robur* with the *Quercus pedunculata*. Their seeds produce trees, which, in eight years, are one-third larger than trees from the seed of the parents separately. They were all planted on the same day, and under similar circumstances.

The Secretary read a letter from Dr. Underhill, of Croton Point Vineyards, in which he suggests, that by planting plum-trees so as to overhang water, they are very certain to be free from the curculio and other insects, which are deterred by instinct from depositing eggs where they will be likely to fall into the water. The doctor commenced his experiments eight years ago, and now has about 200 plum-trees, the larger portion of which have come into bearing, and over 50 have produced fine crops of fruit—and during this time they have been entirely exempt from the ravages of all insects. The doctor constructed a small artificial lake, upon the margin of which the trees were planted.

Mr. Atwill, of Iowa, gave an interesting account of the climate, products, and social condition of that State.

MICE AND RABBITS.—MR. EDITOR: From different sources I hear of the depredations committed upon trees, the past winter, by the mice and rabbits. Thinking the method, whereby some can be yet saved (which will otherwise perish), may be new to some of your subscribers, I give it, claiming no originality, however, for it is old. The annexed figure may give you a better idea of the *modus operandi* than I could detail.

A, A. The trunk of a tree in part. B. The part barked all around. C. A crooked scion, prepared to insert. D. A scion, inserted into the bark below and above the girdled part. E. The bark of the tree.

Many trees of value are girdled all round, and, without something like the foregoing, cannot easily be saved.

I this evening finished fixing some of my most valuable trees, three inches in diameter, that have been barked all around for six inches from the surface of the ground upwards; they may be stuck all round the tree, which, when the sap begins to rise, may be communicated from the root to the trunk, above the girdled part; bank up the earth so as to cover the whole of the scions.

Where the girdle is but narrow, and near the ground, the banking of earth over it may sometimes save a tree, as there will be buds sent out from the bark above the injury, but it is not always sure.

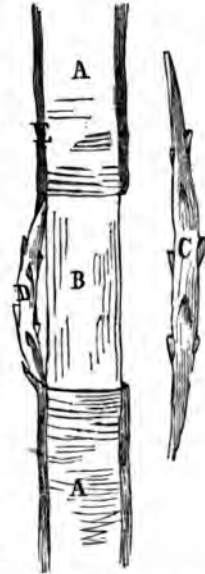
Trees barked high up by the rabbits, may be treated in like manner, but, in that case, a grafting box must be used to cover the wounds, keep air out, &c. Trees treated thus ought to be staked, so as to prevent rocking about, otherwise the scions will not have a chance to grow fast. If you can make anything out of the above, and have nothing better on hand for the occasion, it is at your service; if not, all right, &c.

While on the subject of mice, let me tell those that are breathing out vengeance against the little vixens, that if they will prune their trees in the fall, throw the green brush under the trees, the mice will feed upon them, and let the trees alone, as I observe, invariably, that wherever I left cuttings or limbs under the trees, they were all peeled off, while the tree, but one foot off, was untouched. Let horticulturists mark this for the future.

Calmdale, Lebanon, Pa., April 15, 1856.

[To prevent the ravages of mice another winter, tread the snow firmly round the trees the first time it falls, and keep up the process during the whole winter, after every successive fall.—Ed.]

THE SMOKEHOUSE APPLE.—I suppose you are aware that many of our Eastern nurserymen, and some of our own State, have been crying out against our favorite Lancaster County Smokehouse Apple, or, as it is called by some, Millcreek Vandevere, for the very reason of its being a straggling grower, and hard to raise a nice, straight stock; but when it becomes a large tree, it forms a fine head; to avoid raising it from root-graft, the better way is to graft or bud the same on a good, straight stock, standard height, and you will have a tree in a



S. M.

short time that will bear you apples almost every year, and you will have an apple that can't be beat, taking all into consideration ; it will come, too, in use for baking purposes the last of July and beginning of August.

I have eaten the last of mine this 14th day of May. We had them all along, for family use, through the winter till last week.

Now, Mr. Editor, can you point me out an apple that will go ahead of our Smokehouse ? Were I confined to one kind of apples, I would select this.

Yours, &c. J. FRANTZ.

[We are just now much attached to the Northern Spy, for reasons known to ourselves and Mr. Watts!—Ed.]

VEGETABLE WAX.—DEAR SIR: In the *Moniteur*, I see remarks about the *Myrica Pennsylvanica*, to the point. We have millions of pounds of that vegetable wax, which would make our soirées a little cheaper. I translate it:—

"In the *Moniteur des Comices*, we find some very useful hints on the production of vegetable wax. Beeswax will always command high prices, although we can raise any quantity of it in all the States, but the trouble and expenses to obtain it is a matter of great consideration in the market. Vegetable wax can be obtained much cheaper ; we have the wax-tree well adapted to all our Middle and Southern States ; besides, we have the myricas, which cover our swamps and wastes by the million. Mr. Kellerman states, that he made very fine wax candles of both the *myrica cerifera*, growing even in Canada, and the *myrica Pennsylvanica*, all over Pennsylvania. The wax is gathered from the seeds in the following way:—

"Fill bags with it ; dip these in boiling water ; the wax will soon come on the top, where it can be collected by spatula, or by letting the water off when cold ; by submitting the remainder of the seeds to a process of boiling, we get a second quality of wax. The beeswax contains 0.91 of cerine, and 0.08 of myricine. The vegetable wax contains 0.86 of cerine, 0.13 of myricine."

Old settlers in the Southern States used to extract that wax, which was their only candle at the time ; we can do the same, and it will not cost half the price of the beeswax, all expenses taken together.

GAS-WATER FOR THE BUGS.—Another remark, in the same paper, may prove very useful for the destruction of bugs, insects, &c., attacking the roots of trees, chiefly the fruit-trees, which seem to be more exposed to their attacks than any other of nature's productions ; undoubtedly, because improved fruits are the result of art and human skill, and, consequently, weaker or sweeter than the sturdy native or spontaneous productions.

"M. Fesjier applied to his currants, gooseberries, and pear-trees, covered at the time with lice, a mixture of one-half of the ammoniacal water from the distilleries of the coal gas, and one-half of rain or well water ; he poured that composition, with a water-pot or spout, all over bushes and trees ; the result was the immediate destruction of the lice, and when the soil was stirred and removed at the foot of the plants, all the bugs, larvae, &c., were found dead and destroyed. This solution ought not to be *strong*. Perhaps it would do better to take two-thirds of a barrel of distilled gas-water, and one barrel of common water. We should recommend, moreover, to do it in a rainy or cool day, when the action of the sun would not shrink or injure the leaves. I am satisfied that the above proportion would never harm the trees, and as effectually kill the insects. Soapsuds have the same result, but it is easier to get any quantity of ammoniacal water than such a quantity of soapsuds.

"Salt, in moderate quantity, has a very good result, but its use for trees is not so safe—at least, when we do not take a just proportion. One pound of salt, in a radius of four feet from the body of the tree, will not injure the roots, and kill a great deal of those nuisances."

B.

SAVANNAH, GEO., April 23, 1856.

J. JAY SMITH, Esq.—It is delightful to be in a summer climate so early, and to see everything almost in full leaf. They have the most beautiful shade trees here that I ever saw in any city ; the finest are the oaks, a species called water-oaks. Every few squares an open one occurs, on all the principal streets, and these are filled with these and other trees, making the most beautiful moonlight views imaginable. The flower gardens are in full splendor (in April). Every morning, before breakfast, you can buy in the market fine bunches of roses for a quarter of a dollar. Green peas are plenty ; strawberries there are, but, owing to inattention, very scarce. The yellow jasmine is out of bloom, but as we came down from Macon, nearly two weeks ago, the woods were filled with it.

Truly yours.

GARDENERS.—MR. EDITOR: I was much pleased with your remarks on Robert Meston's letter, about gardeners; it is the greatest mistake that a young man can make, to suppose that respectability means absence of labor; it is folly to say that the professions of law or medicine are more genteel than gardening, or any other handicraft work. A skilled workman is more independent of charity, and in a more respectable and reliable position in society than the skilled clerk, or the skilled professional man, so far as the mere callings of each are concerned. A late emphatic writer asserts truly, that a larger proportion of the clergymen, doctors, salesmen, tradesmen, merchants, speculators in land, and planters, of his country, are involved in debt, and will never pay their debts, than of the laborer, yeoman farmers, mechanics, and artisans. Sensible and industrious farmers and nurserymen, who have started in life with no capital but a good common school education, and a good farm-boy's skill, and strength for labor, more often spend a happy and grateful old age among children and children's children, of whom they are proud, than men of any other calling.

The idea that a muscular, or handicraft occupation, if directed with the genius and thought it always may and should be, is lower or less fortunate, or less likely to be attended with honor in a free country, than the occupations of transfer, copying and adapting forms and precedents, is a most false and pernicious one. Genius, taste, energy, and dexterity, as well as capital in general knowledge, and culture of mind, are even more valuable, and are at this time more wanted in our market, and are better paid for in the artisan and mechanic, than they are in the tradesman or professional man. As to gardeners, it will not do to say they are under-paid; they receive twice as much as a farm-hand, and, with the education they acquire in their apprenticeship, even if they have not talent above the grade of an ignorant field-laborer, they are sure, with steady habits, to arrive at an enviable and happy social position.

AN OLD GARDENER.

THE "NEW ROCHELLE" BLACKBERRY.—I wish to learn from practical cultivators, through the "*Horticulturist*," how the "New Rochelle" Blackberry has endured the severe cold of the last winter in the latitude of Boston and southern New Hampshire. I find all parts of the plants in my grounds, that did not get buried in the deep snow, *killed*, as also are the "Improved High Bush," or Dorchester Seedling. The "New Rochelle" having been recommended as *perfectly hardy*, and mine not proving so, thus far, has led me to make the inquiry of the readers of the "*Horticulturist*," which, by the way, gives very general satisfaction to all its readers with whom I have conversed, in

EASTERN MASSACHUSETTS.

FOOD FOR TRAVELLERS.—"Wholesome water, and wholesome, fresh fruits, are not to be obtained by the traveller, in the largest part of the United States. Bacon, fat, and salt, is the stock article of diet. He must satisfy his appetite with this, or with coarse or most indigestible forms of bread. In either case, he will have an unnatural thirst, and the only means ordinarily offered him, at country-houses, for satisfying this, will be an exceedingly dirty and unpalatable decoction of coffee, of which the people usually consume an excessive quantity; or alcoholic liquors, of the most fiery and pernicious description.

There is no reason, I believe, why every farmer in the Union should not now make a wine for his family use, which, with most persons, would be most advantageously and economically substituted for coffee and tea, and which use would soon make more palatable than any other beverage, for ordinary purposes."—*Olmsted's Seaboard States*.

CITY TASTE FOR RURAL THINGS.—The Parisians have inaugurated horse-meat as an article of excellent food, much to the horror of John Bull and his brother. Punch says: "We do not believe that even Soyer, with all his arts, could render horse-flesh palatable, or that a *fricandeau de cab-horse*, or *cotelettes* of Shetland pony, will ever become an acceptable dish. We must look forward to the time when, from eating horses, the members will proceed to eating asses, and thus by an easy and natural step, arrive at the point where they will begin eating each other. In this way, the society may possibly be extinguished, if it does not previously poison itself quite out, by the trash it feeds upon."

A BIT OF FUN.—The President of the club mentioned below, allows us to extract the following proceedings from the "regular minutes":—

FARMERS' CLUB, AT CLIFTON, NEAR CINCINNATI.—At a meeting of the *Amateur Farmers* of Clifton, held recently at the School-house, the following interesting discussion took place:—

Col. B. was called upon to preside, and John Quill appointed Secretary.

Upon taking the chair, Col. B. remarked, that the object of the meeting was to discuss subjects connected with agriculture, and the more important branches of horticulture—as

for floriculture, he would leave that to the ladies. For himself, he was willing to impart such information as he had derived from ten years' experience as an amateur farmer, in hopes that the members present would express their views frankly on topics so interesting to all.

The subjects for discussion would be—The mode of preparing the ground for crops, manures, and their application; crops cultivated; rotation in crops, and modes of culture; the orchard; the garden; the poultry and the pig yard; and the dairy, and stock raising, &c. &c. Each of these deserved, and he hoped would receive, due consideration.

To commence, he would call upon *Farmer R.*, to state his experience in *subsoil ploughing*.

Deacon R. said that he was not entirely satisfied with his experiments in that way. He had employed a team of seven yoke of oxen, with five Irishmen as *aids*, on a three acre field, for about ten days, with the subsoil plough; broke two ploughs, and had to pay for one of the oxen, for want of knowledge on the part of the Irishmen how to manage the *bastes*; had thought that the work might have been done better and cheaper with the spade.

Farmer R. B. thought the *Irish plough*—the spade—was the best, in the long run, for amateur farming.

Farmer W. R. was of that opinion *decidedly*. He had trenched, with the spade, three and one-half acres, two feet deep, and under-drained it with tile, at an expense of not over \$165 per acre.

Deacon S. would prefer three feet deep; it would cost about fifty per cent. more. Had tried it on his garden, and was well satisfied with the result.

The *Chairman* stated that he was then experimenting in that way on a hill-side of several acres, but as to the *cost* he could not say, for he had long since burnt his books of farming expenditures as vexatious tell-tales.

W. R. said he had done the same thing with his mementos of that kind, considering them nuisances.

The *Chairman* asked for the experience of the members in *planting*. He would give his own. He was an admirer of *forest trees*, for their beauty and utility. Most of those on his farm, however, were, unfortunately, in the wrong place, and he had to cut them down and plant young ones in the place where the old ones *should* have stood. Planting his *fruit-trees* near the canal, he found to be an ingenious contrivance to keep depredators from his vegetables, as long as the fruit lasted.

Farmer D. said he had the same experience with his fruit, and had now to buy apples for family use.

Brother W. had found planting fruit-trees near the roadside to answer the same purpose. Other members concurred in this opinion.

Farmer S. had planted forest-trees around part of his farm, but more with a view to grow fuel than rail timber. In fruit planting, he had selected the dwarf-trees, being more convenient for children and visitors.

W. R., by high manuring, had lost most of his pear-trees by blight.

Brother W., by high culture, produced an immense growth of wood on his pear-trees, *but no fruit*; he had taken them up and root-pruned them.

Farmer B. had tried a coating of coal tar on some of his young fruit-trees, to prevent the rabbits from girdling them in winter. The remedy kept off the rabbits, *but it killed the trees*.

"Poultry" was next called for by the Chair.

Deacon S. said he would give in his experience. His poultry yard was unexceptionable, and he had procured some of the finest heavy-bodied, short-legged *Cochin-China* fowls, at \$25 per pair, and *Brahma* Pootas at \$20, tall enough to pick corn off the head of a flour-barrel—(*Shanghai* he considered a humbug)—but he had been more successful in rearing fancy chickens than in *keeping* them, for they were nearly all stolen in one night, about the time they were fat enough to eat.

A new member remarked that the same accident had happened to his harness and garden-tools, though he had no doubt but it was a very honest neighborhood. [The Chair called to order.]

Farmer R. said that he had been tolerably successful with fancy chickens. Had reared about half the broods, and succeeded in keeping and selling them. Part of his stock had been spared to *Brother S.* (Here *Brother S.* groaned in the affirmative.)

Farmer F. B. found no trouble in raising chickens; but his valuable English greyhound would eat them up about the time they were half-grown.

Farmer M. preferred the common stock. With proper attention, he generally raised *half* the broods.

Farmer B. said he had an old hen that could beat that; she seldom lost any; but he

had some bad luck with the rest of them. In one night, four turkeys and six fine hens were stolen from him. One of the hens was a fancy Cochín China, that he was petting up to sell to Brother S., at a fair price. On another night, fifteen of his best fowls were killed by a rascally mink.

After some desultory remarks amongst the members, an adjournment was carried to meet at the same place on Saturday, the 17th inst., at early candlelight. The next subject before the meeting to be the culture of vegetables.

JOHN QUILL, Sec'y.

THE LADIES.—It used to be said that ladies were "those pinks, carnations, roses, and tulips, that required the protection of a bonnet!" Where are all these beauties of the streets; the bonnet part, at least, has disappeared.

EXTENSIVE ESTABLISHMENTS.—Among the many large establishments in this city, there are none, perhaps, that possess more interest to all classes of the community than those in which fruit and other luxuries peculiar to the summer and autumnal seasons are preserved, in all their flavor and sweetness, for use in winter and spring. A few years ago, this was a very trifling business, but enterprise and energy have built up a trade in Philadelphia, amounting, in the aggregate, to upwards of \$300,000. Employment is given to several hundred persons during the year, and, in one establishment, nearly \$12,000 were paid out for wages during the fruit season of 1855. The capital invested in an establishment of this kind, is far greater than a mere cursory glance through it would seem to indicate. In the preparation of the various kinds of fruit, there is a vast amount of care and prudence required, as some kinds have to be cooked before being put in cans and bottles, while other varieties only demand a certain kind and quantity of syrup. This is considered the most difficult portion of the business, and experience has taught many housekeepers that the knowledge of these two important matters—cooking and making syrup—are of greater utility than luck; for, where the latter is depended upon solely, losses of time and money much more frequently occur than where the parties have the facilities for preserving the fruit, and possess the knowledge of having it properly attended to.

The two principal dealers in this city are Mr. Mills B. Espy, No. 109 South Third Street, and J. L. Wendell, No. 152 South Front Street. Mr. Espy does much the largest business, and has a building 27 by 120 feet, and 5 stories high, in which every department is carried on extensively. The cans used are made in the building, the sealing-wax prepared, the fruit cleaned, pared, cooked (when rendered necessary), and put up, ready for foreign markets, or home use. Some idea may be formed of this trade when we state, that among the articles put up in Mr. E.'s establishment, in 1855, were upwards of 20,000 pounds of cherries, 10,000 quarts of strawberries, 4,000 baskets peaches, 6,000 baskets tomatoes, 3,000 bushels plums, 100 bushels gages, 100 barrels quinces, 15,000 pine-apples, 1,000 bushels of gooseberries, 2,000 bushels each of corn, peas, and beans, besides 300 hogsheds of pickles, &c. Although a comparatively small quantity of oysters are put up here, nearly 12,000 cans were prepared in this house, as well as thousands of cans of fresh beef, mutton, veal, milk, and other articles. The cooking of Mr. Espy is all done by steam. The apparatus is constructed in a superior manner, and, from the peculiarity in cooking the fruit and vegetables, and preparing the syrup by the same agency, the flavor and delicious taste are preserved, and, when eating the articles prepared, it seems as if they were fresh from the vines or trees.—*Philadelphia Ledger*.

DWARF CHERRIES AND PEARS.—We have found great pleasure in the cultivation of dwarf cherry-trees, and observe others are planting them. Cherries, as bushes on the mahaleb stock, root pruned, should be planted four feet apart. The root pruning should be done towards the end of September, and will be facilitated if the bushes are planted on a little mound. Dig a trench round the tree, and introduce the spade below, to cut off all the perpendicular roots; thus, all the spreading roots are shortened, precisely as is done with dwarf pears; this may be done with a knife, and the ends brought to the surface, previously filling in the trench with light, friable soil, and covering with the soil taken out of the trench; no dung, or manure of any kind, is required, as this stock flourishes on the poorest soils. Some short litter, or half-decayed leaves will, however, be of much benefit, placed on the surface, near the stem. If not root-pruned, they should be six or eight feet apart, as they are very apt to get large and lose the character of dwarfs; great attention should be given to pinching the new growth to within three or four buds of the old wood, leaving the leading

shoots untouched till the middle or end of August, when they must be shortened to eight or ten buds. The three varieties, or groups, those of the habit of the Morello tribe, the Bigarreau family, including the Heart Cherries, and those of the compact habit of the May Duke, should be planted in separate rows. For potting, and forcing, cherries on the Mahaleb stock, are highly eligible, as they do not gum, and are very prolific. They are often infested with aphides and ants, but we have not found these insects injurious to any great extent. B.

IMPORTANT.—His Majesty, the Emperor of France, has "graciously expressed his consent to the proposal that he should be elected an honorary member of the Royal Agricultural Society of England," and a diploma and sixteen bound volumes of the *Transactions* of the Society have actually been forwarded to him! He is a capital farmer, and irrigates with his people's blood; he may some time take it into his head to manure with "superphosphate" from English bones, as the English did with the bones from Waterloo.—*Figaro*.

Horticultural Societies.

COLUMBUS (OHIO) HORTICULTURAL SOCIETY.—The annual meeting of this Society was held at the Society's room, on Saturday evening, April 5—the President, M. B. Bateham, Esq., in the Chair.

Three varieties of apples were exhibited, viz: Willow, Liberty, and Romanite, each in a good state of preservation.

Some very interesting remarks were made in reference to the effects of the late winter upon fruit-trees, in this and other sections of the country. In particular localities, little, if any, injury has been done; while, in others, the effects have been disastrous.

The following gentlemen were chosen officers for the current year: *President*—M. B. BATEHAM. *First Vice President*—BENJAMIN BLAKE. *Second Vice President*—ALEX. E. GLENN. *Treasurer*—HENRY C. NOBLE. *Recording Secretary*—ROBERT HUME. *Corresponding Secretary*—HENRY C. NOBLE. *Council*—FRANCIS STEWART, GEORGE GERET, WILLIAM G. DREHLER. *Garden Committee*—HENRY C. NOBLE.

At the annual meeting of the Hartford County Horticultural Society, held on the 12th of April, the following officers were elected for the ensuing year, viz: *President*—WILLIAM W. TURNER. *Vice-Presidents*—JOHN M. NILES, JOHN S. BUTLER, HENRY W. TERRY, Hartford; HENRY MYGATT, Farmington; CHARLES L. PORTER, East Hartford; NOAH W. STANLEY, New Britain; NORMAN PORTER, Berlin; E. A. HOLCOMB, Granby; SALMON LYMAN, Manchester; S. D. CASE, Canton; H. A. GRANT, Enfield. *Recording Secretary*—DANIEL S. DEWEY, Hartford. *Corresponding Secretary*—THOMAS R. DUTTON, Hartford. *Treasurer*—F. D. STILLMAN. *Auditor*—H. L. BIDWELL. *Standing Committee*—WM. T. TUTTLE, H. W. TUTTLE, H. W. TERRY, EDWARD GOODBRIDGE.

BROOKLYN HORTICULTURAL SOCIETY.—This Society held its first general meeting on the 16th and 17th inst., and it has not lost any of its former superiority. To enumerate all the best things that were there, would require more space than I presume, you have at present to spare. Suffice it, then, to say, that the plants were more than excellent. It has been a custom, hitherto, for us to be continually reverting to the quality of Chelsea, but, in this instance, at least, there is no occasion to do so, for the greater part of the specimens exhibited were all that the best skill of the cultivator can accomplish. All plant lovers who were not there, missed a great treat, and the opportunity of seeing the difference between what are ordinarily termed good, and the best *specimen grown* plants. The fact was there clearly demonstrated, that we can grow to perfection in our climate, notwithstanding the general say to the contrary, the *Boronia*s and *Pimelia*s of Australia, and the *Erica*s of Caffraria, for they were produced in the most magnificent bloom and robust health. *Erica* Boweana, and *Pimelia* spectabilis, were each over three feet in diameter. The *asaleas* were really gorgeous, and the more intertropical examples were equally represented. Taken as a whole, it is doubtful if such an elegantly-formed and well-grown collection of plants was ever before seen in the States, and we may hope that the men who produced them will be able to continue their exertions until the general host of scarecrows, which are too often seen, become numbered with the things that were. W. C.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The stated meeting of this Society was held at Concert Hall, on Tuesday evening, April 15, 1856, M. W. Baldwin in the chair. The following awards were made by the Committee on Plants and Flowers:—

Roses—twelve plants, twelve varieties—for the best to Henry A. Dreer; for the second best to John Pollock, gr. to James Dundas. *Asaleas*, dwarf variety, *Specimen Plant*—for the best to the same. *Hyacinths*, six plants, six varieties—for the best to Peter Raabe. *Pansies*, ten plants—for the best to Henry A. Dreer; for the second best to James Thomas, gr. to Jas. D. Whetham. *Collection of twelve Plants*—for the best to Isaac Collins, gr. to Gen. Patterson; for the second best to John Pollock. *Collection of six Plants*—for the best to Chas. Sutherland, gr. to John Anspach. *Specimen Plant*—for the best to Chas. Sutherland, gr. to John Anspach; for the second best to Thos. Robertson, gr. to B. A. Fahnestock. *New Plants*—two dollars for *Boronia Drummondii*, B. serrulata, and *Gastrolobium trilobatum*, to Thos. Robertson. *Tulpe Design*, new and tasteful—for the best to Barry Higgins, gr. to D. R. King. *Basket of cut Flowers*, averaging sixteen inches—for the best to J. J. Habermehl, gr. to John Lambert. *Basket* (over sixteen inches)—a special premium of two dollars to Barry Higgins. *Bouquets*, over eight inches—a special premium of two dollars to J. J. Habermehl.

Special Premiums.—For a beautiful collection of *Verbenas* and *Stocks*, two dollars to J. J. Habermehl; for a fine collection of *Cinerarias*, two dollars to Chas. Sutherland; for a collection of *Cinerarias* one dollar, and for a beautiful seedling *Verbena*, one dollar to Robert Buist; for a fine collection of *Plants*, two dollars to Thos. Robertson; for a collection of *Mimulus*, one dollar to James Thomas; for a rare collection of *Oreohda*, three dollars to John Pollock, and for a beautiful pair of vases filled with *Hyacinths*, five dollars to Peter Raabe.

By the Committee on Fruits. *Special Premiums*—five dollars, for two varieties of *Grape Vines*, in full fruit,

the Grizzly Rantignac, and Black Hamburg, grown in pots, to Wm. Bright, gr. to Jos. S. Lovering; three dollars, for a display of cut bunches for grapes, consisting of five varieties: Hamburg, Frankenthal, Cochla China, White Funtignac, and White Muscat, to Mark Hill, gr. to M. W. Baldwin.

The Committee called the attention of the Society to specimens of Peaches preserved in tin cans, hermetically sealed, which retained the flavor of the fresh fruit to a remarkable degree, presented by Edward Tatnall, of Wilmington, Del.

By the Committee on Vegetables. *Cucumbers*, two specimens—for the best to Mark Hill, gr. to M. W. Baldwin. *Special Premium*—one dollar, for six heads of fine Lettuce, to J. J. Habermehl.

Four gentlemen were elected resident members.

OBJECTS EXHIBITED.—*Plants* from the conservatory of Gen. Patterson—collection of twelve—*Azalea*, a white seedling, *Chorosema varium*, *Acacia pulchella*, *A. speciosissima*, *A. coccinea*, *A. elegans*, *Begonia sanguinea*, *B. manicata*, *Franscesea latifolia*, *Euphorbia splendens*, and White Bankala Rose. Specimen—Yellow Banksia Rose.

From James Dundas's houses.—Collection of twelve—*Cuphea platycentra*, *Genista hybrida*, *Centradenia rosea*, *Begonia nitida*, *B. laperousia*, *B. manicata*, *Gardenia Stanleyana*, *Franscesea eximia*, *Chorosema varium*, *Vinca alba*, *Mahernia picta*, and *Cyrtoceras multiflora*. *Specimens*—*Conoclinium lanthumum*, dwarf *Azalea variegata*. *Orchids*—*Phalanopsis grandiflora*, *Cattleya marginata*, *Dendrobium aggregatum*, and *Oncidium flexuosum*. Twelve Roses—*Terre de St. Cyr*, *Cela*, *Compte de Paris*, *Devonensis*, *Souvenir de Malmaison*, *Lyonsais*, *Madam Bousanque*, *Agrippina*, *Hermosa*, *Vicompt de Cayes*, *Saffrana*, and *Aurora*.

From B. A. Fahnestock's greenhouses.—Collection of twelve—*Polygala*, *Dalmatiana*, *Epacris laevigata*, *Tropaeolum Jaretii*, *Chorosema varium*, *C. elegans*, *A. albo-maculata*, *A. splendens*, *Cytisus racemosus*, *Geranium Jehu superbum*, *Mahernia odorata*, *Camellia de Etna superba*, and *Correa speciosa*. *Specimen*—*Pimelia spectabilis*. *New Plants*—*Boronia Drummondii*, *B. serrulata*, and *Gastrolobium trilobatum*.

From John Anspach's houses.—Collection of six—*Ixora coccinea*, *Franscesea confertiflora*, *Amalca variegata*, *Bletia Tankervillei*, *Deutria gracilis*, and *Stretlisia regina*. Specimen—*Tropaeolum tricolorum*, *Azalea indica alba*, and a number of *Cinerarias*.

From John Lambert's houses.—A collection of *Verbenas* and *Stocks*.

By Henry A. Dreer.—Twelve Roses—*Lion du Combat*, *Madame Elliott*, *Madame Remont*, *Brion*, *Madame Brasy*, *Bougere*, *Hermosa*, *Archduke Charles*, *Madame Bredell*, *Solfatere*, *Phaloe*, and *Fortune's Double Yellow*, and ten *Pansies*.

By Robert Bult.—Six fine *Cinerarias* and a seedling *Verbena* (Jack).

From James D. Whetham's.—Collection of ten *Pansies*, and another of *Mimuli*.

By Peter Raabe.—Two very large vases of *Hyacinths*, growing in moss, and twelve pots of *Hyacinths*.

Designs, &c.—By D. R. King's gr.—A beautiful and novel table design, and a fine basket of flowers.

By J. J. Habermehl.—A basket, and pair of bouquets.

By Robert Kilvington.—A bouquet.

By J. F. Knorr's gr.—Three bouquets, not in competition.

Fruit.—From Jos. S. Lovering's gr.—Two pots of Grape-vines in fruit—the *Hamburg* and *Frontignac*.

From M. W. Baldwin's.—Cut bunches of five kinds of Grapes.

From E. Tatnall, of Wilmington, Del.—Cans of preserved Peaches, hermetically sealed, preserving the freshness of the fruit.

Vegetables.—By M. W. Baldwin's gr.—*Cucumbers* and *Lettuce*.

From John Anspach's.—Holloway's *Defiance Cucumbers*.

From D. R. King's.—*Mushrooms*.

From John Lambert's.—*Fine Lettuce*.

Calendar of Operations.

JUNE.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—Thinning, hoeing, and cultivating the growing crops, are the principal routine operations. Fork the ground between the rows of onions, carrots, and, indeed, all crops that it is desirable to keep in active growth, and the drier the weather, the more necessary the operation. The advantage of drained soils will again be apparent from the continued vigor and growth of the plants upon them. The increased porosity of the soil, consequent upon the admission of air to all its parts, enables it to absorb, to its fullest extent, the rain-water as it falls from the clouds. On the other hand, undrained lands (unless gravel or sand) cannot absorb an appreciable quantity of water during a heavy summer shower. It runs off at the surface to the lowest point; for this reason, drained lands really contain and have constantly present, more moisture than those unventilated.

Parsnips and beets may be transplanted to fill up vacancies; these will grow readily, if dull weather can be had for their removal; if not, pick off most of their leaves, to lessen their evaporating surface.

CELERY.—Young plants, at least for the early crops, should be transplanted from the seed-bed into a rich pulverized soil; set them about three inches apart, and they will remove with small balls of roots when wanted for final planting.

The striped bug is frequently on hand just as young melon and cucumber plants are at their most tender stage. We have seen them completely routed by watering the plants with a liquid mortar of clayey soil and cow manure, without any apparent injury to the young plants.

MULCHING.—If possible, mulch between the rows of all crops, short grass from lawns, refuse hay, leaves—anything, in fact, that will loosely cover the ground, should be employed for this purpose. This will retain the moisture, and very effectually prevent the growth of weeds.

HARDY FRUIT.—The results of the past severe winter are now becoming apparent. Young fruit-trees that were seemingly unhurt, and commenced growth as usual, have produced a few sickly leaves, of a yellowish color, and ceased growing. On examination, it will be found that the bark is discolored, and parts easily from the wood, especially on the south side of the stem. They should be cut down at once to healthy wood.

PEARS ON QUINCE.—There are various opinions on the merits of so-called dwarf pears. We are too liable, in our horticultural zeal, to push matters to extremes. It requires a long series of well-tried and closely observed experiments to establish a horticultural fact. With the same treatment, a Bartlett will fruit as early on the pear as a Glout Morcean on the quince stock, and, in nine out of ten cases, the latter will excel the former in growth. No doubt, grafting the pear on the quince was at first resorted to, with a view of rendering a few of the most luxuriant growing varieties more productive, and their success led to an indiscriminate use of the quince as a stock for the pear, without reference to the degree of vigor possessed by the numerous varieties. The same has happened with roses, and *budded* roses are now condemned by many, although amateur rose growers well know that many of their finest sorts are never seen in their greatest perfection, unless grafted on a suitable stock. Many pears grow with great vigor even on quince, and, unless skilfully managed during summer, by checking growth, they will not fruit earlier than when on a pear stock.*

The most essential point in the culture of fruit-trees undoubtedly lies in summer pruning. Without this, our best treatment will not prove continually remunerative.

STRAWBERRIES.—Clean away all the young runners, unless required for increase, and keep the plants distinct, and free of weeds.

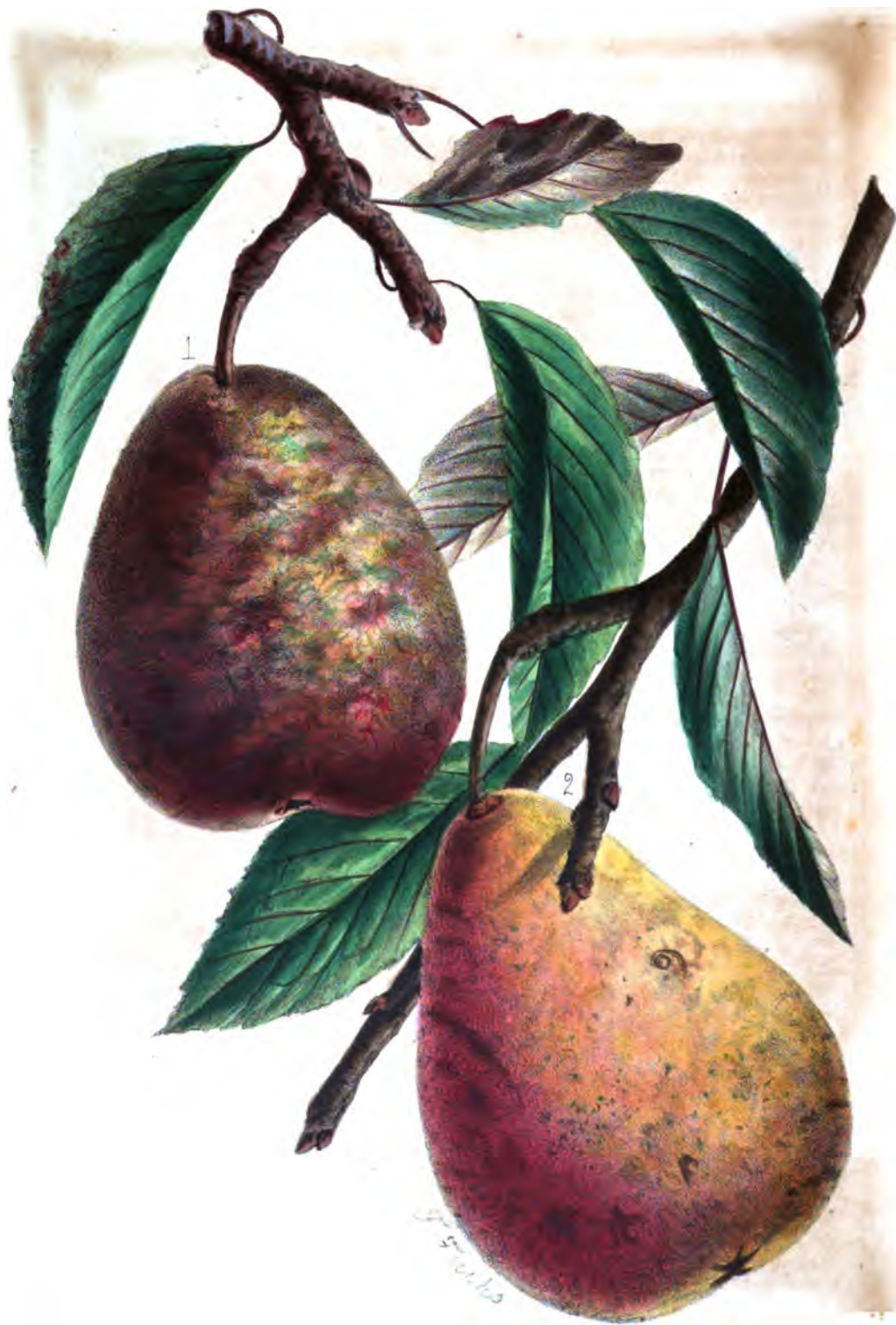
RASPBERRIES.—Thin out the *young* canes as they grow, and cut out the old stems as soon as the fruiting season is over.

GRAPES.—Pinch the points out of the fruit bearing branches four or five eyes beyond the fruit, but do not, as yet, disturb any of the lateral, or young side shoots, from the present year's growth. Thin the branches to one for each shoot. It is a notorious fact, that most of our hardy grapes are rendered unhealthy and unproductive through excessive cropping.

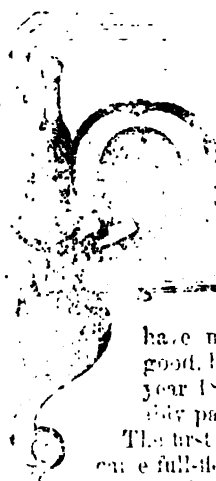
GRAPHY.—Thinning the bunches having already been attended to, thinning the berries will now require attention. Shouldered bunches may require tying up and spreading to allow the berries to swell. It is difficult to establish definite rules as regards the exact amount of fruit a vine is able to mature. Attempts have been made to form rules according to the diameter of the stem. This may be found tolerably accurate when all are under similar treatment; but a well-ripened cane, half an inch in diameter, may perfect a crop of eight lbs., when a cane double the thickness, would not ripen as many ounces. It is not the quantity or size of shoot that is all-desirable, but its quality as regards matured growth. The great error, in most of our horticultural advice, is a tendency to generalize upon insufficient data. It is a mistake for any one to suppose, that what he finds good for his own guidance, under his system of management, will be equally suitable for the million under their various modes of management. Keep the atmosphere moist by frequently sprinkling the house with water; this will tend to prevent mildew, but when it does show itself, use sulphur dusted over the house. Syringe the vines occasionally, but dashing water through a force pump on the tender foliage, is not beneficial or natural. Ventilate exclusively by the top, and leave them open, to a certain extent, both day and night. If managed as above, there will be no danger of bad colored grapes. "Ventilate early in the morning, and shut up early in the evening," is common advice, and those who adopt such a course need not be surprised if their fruit is deficient both in color and flavor. *The fruit will ripen earlier when the temperature is kept cool in the absence of light.*

Vines that are treated on the short spur pruning system, must be stopped an eye, or, at most, two, above the fruit bunch. It is well to encourage all growth that is possible. *Close* summer pruning is sooner or later ruinous to the plant if persevered in. We confess to having advocated a different course several years ago, but experience, that best of all monitors, has taught us otherwise, and, as a celebrated writer has remarked, "of what use is life without the hope of improvement?"

* [The period when dwarf trees require attention from the *pincher* having arrived, we refer the learner to Mr. Barry's book of fruits, and particularly to the volume of the *Horticulturist* for 1853, page 254, for information on the subject.—Ed.]



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DECENNIAL.

THE HORTICULTURIST.

Its History, Progress, and Present Position.



ROBABLY there have been few periodicals of its limited circulation that have had around it a more attached and select list of readers. It was *popular*, in the truest sense, from the moment it was known; though it never attained a very large patronage in comparison with some works of similar price, it found at once an appreciative audience all over the country. Like a new railroad through a not over populous tract, it made its own customers, if we leave out of view the few who were found ready-made; but the latter were not numerous. As time progressed, the tract settled, the passengers increased, and, with every rolling year, those numbers

have multiplied. It was undertaken with a view to the public good, but it was never very successful, in a commercial view, till the year 1854, from which period its increase of readers to a reasonably paying point may be dated.

The first number was issued on July 1, 1846, just ten years since; it came full-fledged from the press; its plan has been adhered to with little variation; its topics are much the same as they were at first; the progress of knowledge that has been made by cultivators, is regularly marked in its pages; in some things, on which the ideas of many were crude and unformed, principles have been established; the writers themselves have made progress; false notions have given place to correct views; in rural architecture, the best lessons have been taught, and are largely practised. In some matters, the standard is so well established, that it would be useless to dwell any longer upon them, while new topics are constantly coming forward, where, indeed, the topics are inexhaustible.

In Pomology, and all the branches of fruit culture, the *Horticulturist* has been a pioneer; aided by the best minds in the country, this topic early attracted attention, and its founder, in this pursuit, was an acknowledged master, under whose direction the subject was safe. The strides made in this department are perfectly astonishing. And yet this ten years has been a period of a most desperately fought battle, in which it is to be regretted that the pomologists have been very partially the conquerors. The armies and implements employed for the siege have been pigs, poultry, and mallets; for powder, lime and sulphur; tree quaking and shaking, and the whole paraphernalia of deadly weapons have not routed the enemy, who, from the crescent-shaped puncture he makes in our fruits, is called "The Turk." Most heroically has he stood the siege, looking down upon his enemies with an equanimity and contempt highly creditable to his stoicism. The curculio has been a more "fruitful" topic of this work than any other; it is quite curious to trace in its pages the progress of the war; the bulletins, proclamations, sieges, mines, syringings, hard knocks, and anathemas, that have been expended in vain; he remains very much master of the field, not having been alarmed in the least by the committee appointed to blow him up, or the secret remedy which has been held so long in *terrorum* over his head. He is the wealthiest enemy ever attacked, being worth millions of *plums*!

In architecture, the work soon took a position which produced the happiest results. The mock Grecian fashion, then at its height, fell like a pack of loose cards; the *Horticulturist* was soon an authority to coax or to shame the builder in the country. We do not mean to say, that every one of the designs presented in the work was perfect—far from it. The editor, as must be the case with all successful conductors of the press, was himself a *learner*,* yet he enunciated so many truths, that the public taste was, at least, bent in the right direction. But for this effort, our extensive land would have been strewn with abortive attempts at the sublime, the beautiful, and the prodigious. Perfection is not to be reached in a ten years' journey in any great art, but we are much nearer to it than we were in those days of ignorant pretension, and consequent erroneous execution.

Gardening has received an impetus during this decade that is very marked. The experience of "old diggers" and young delvers, has been freely communicated—line upon line, and precept upon precept, till here, too, we have settled some principles of the greatest moment, and we now produce, with the aid of guano and better adapted manures than formerly, nearly twice as much in a garden of given extent, and more valuable products by far than we did a few years ago; this too, at less cost, and of better quality. The strawberry culture is improved and understood, and better varieties have become abundant. New introductions of various kinds have been adopted, and in all cases this periodical has been the pioneer in announcing the coming benefit, no less than in recording the best modes for its culture.

It is very true in this as in architecture, we have yet much to learn; it is also true, that like good scholars, we are conning over our lessons with praiseworthy attention, but, in the midst of it all, it is remarkable that we let some things that we once knew slip by us and be forgotten. As an instance: in an early number, we were informed that the best Black Hamburgh Grapes were obtained, and prizes given for them, from a mere shed built on a fence for the back, and with the melon frames, when done with in spring, used for the roofs; and yet, we still go on with expensive buildings for raising grapes, and have not yet produced the foreign fruit in such abundance as to be either cheap or plenty; on the contrary, these grapes command double the price they did in 1846. How is this? The necessity for glass at all, is to prevent mildew; it may yet be found, that a fence and prepared or oiled muslin, will answer every purpose, as we know that, in some seasons, these foreigners succeed very well without any covering whatever. But this in parenthesis, and by the way, for there are many forgotten good things in the ten past volumes, as we can testify after a recent careful reperusal of the whole.†

A marked improvement has taken place within the period we are commenting on, in the *character* of the nursery business, and the nurserymen engaged in it. Not that *all* have become more honest, for there were many good men in the business before; but we allude to the correctness with which fruit-trees are named and sold. The kinds of fruits are now so much better known and understood, that to be successful, the nurseryman has to be correct; honesty is his best policy, as it is known to be in other matters; formerly, detection was more difficult,

* To teach is to learn; according to an old experience, it is the very best mode of learning—the surest and the shortest. And hence, perhaps, it may be, that in the middle ages, by the monkish word *scholaris* was meant, indifferently, he that learned, and he that taught.

† It is a work of reference as well as for its regular monthly reading, that the *Horticulturist* is especially valuable. We have been much pleased to find the whole ten volumes extremely interesting, and cannot point out any other periodical work that bears a reperusal so well. A complete set is a valuable possession, now rare.

because neither the purchaser nor his neighbors could tell whether he had been deceived or not.

One great benefit of the work was its calling forth the latent talent of numerous writers who had no suitable vehicle through which to communicate with kindred minds. In a pursuit where there should be no patents, and where but few are ever taken out, a pursuit the pleasure of which is so eminently enhanced by sympathy and association, it was to be expected that good and true disciples would be willing to distribute their information. It has so proved.

The example was highly beneficial to the farming interests throughout the States. In theory, the sister arts are the same; when this periodical taught the true modes of going to work, and that it could be conducted without petty jealousies and wranglings, the agricultural caught some of the tone and spirit of the horticultural mind; books on agriculture have multiplied immensely, and are read by thousands who have happily discarded the old opinion, that book knowledge was only fitted for what are called professional men; getting rid of that fancy is a great good. That horticulture is not as prominent or as popular a topic as agriculture, is proved by the great increase of periodicals on the latter, and the slow multiplication of the former. Various attempts have been made, almost yearly, to graft other horticultural periodicals on the public tree, but all of them have been unsuccessful; they lived a sickly, short-lived existence, got "the blight," and were cut down. So far, the *Horticulturist*, and Hovey's *Magazine*, the latter a forerunner of Downing's, are the sole representatives of their species in America.

We have alluded to the slow though regular increase of the patrons of this work; as we wish to have no concealments with our readers, we may again state that the increase in its circulation is steady and gratifying. More than a thousand additional names have been added since the year just expired came in, when it was placed in the hands of the present publisher; the prospect is now certain that its patrons will number between five and six thousand before the close of the present volume.*

The custom pursued by the publishers of this work, is the true one to insure a wholesome circulation. At the expiration of the year, the subscription book is thrown aside, and a new one procured, in which the names are entered as payments are made, so that it is not sent, from year to year, to persons who do not desire to receive it; the publisher knows that all who get it, want it. This method is not the one which counts the largest number of subscribers, but, in a circle of readers extending over the whole Union, and even beyond it, this method is found to be the most satisfactory to all parties. We mention it now, because some regular readers did not understand their non-reception of the January number, and wrote to the editor to inquire.

It would be easy to prove that it is strongly the interest of men engaged in the sale of fruit and ornamental trees, and flowers, to promote our circulation, because the more a taste is diffused for horticulture, the greater must be the demand for their products. When Lindley's *Gardeners' Chronicle* was first issued, the most ignorant gardeners of England concluded that the more informa-

* Some readers who have not taken the work from the commencement, are sometimes puzzled to know how the *Horticulturist* numbered ten volumes in nine and a half years. It commenced July 1, 1846, but it was found, that to date from January to December was a more convenient arrangement to both subscriber and publisher, and the last six months of 1850, or half a year, was called a volume, for the purpose of commencing in January, 1851, with a new one; so that, though this is the eleventh volume, to-day commences the decennial or tenth year of its existence. The original price was three dollars a year, without any colored edition, and with illustrations very inferior in execution to the present.

tion given to the employer, the less would be the demand for their services! This absurd idea was easily dissipated, and time has amply proved its error. It has even been argued successfully, that it will answer a good purpose to the nurseryman to *give away* his products for a time, till neighborhoods have imbibed a taste for their possession. These are great steps in a forward direction.

As Dr. Ward remarked, in his first article on the Culture of the Pear, "the rubbish is but just cleared away." This will apply to other horticultural topics; books are now multiplied on horticultural subjects to an extent that was unheard of ten years ago; we have separate reliable works on the Pear, the Grape, the Apple, the Peach, the Cherry, Strawberry, and even the Cranberry and Blackberry, and a handbook on Ornamental Trees, and many on Flowers and Gardening in general; these are so cheap as to be accessible to all, and most of them may date their existence to the taste created by the *Horticulturist*.^{*} Then we have the State and the Pomological reports, annually giving the collected wisdom of the most practical men, for reference and study; the newspapers, too, have taken up our topics; the ball set in motion, the discussion and comparison of facts has cleared the atmosphere; what is yet needed is doing, or to be done, by practical minds, leaving the *Horticulturist* to chronicle results rather than entirely to pioneer opinion, or more than suggest future action. The rubbish being cleared away, Pomology an established science, and every year revealing its facts, the present and future course of this work is one of pleasure; the walks are dug, the stone drains laid, the gravel is placed and rolled, and we are in the position of visitors to a cultivated garden, with liberty to amuse and enjoy ourselves; to point out improvements annually, select our best fruits and most imposing trees and shrubbery, and as good fortune and science offer an opportunity, or bring something better, impart the knowledge to one's neighbors; the house is built, the dirt of the cellar is carted away, and, under these circumstances, the position of the resident is a pleasure rather than a task; such we feel it to be, and while we can count as many friends and interested contributors and readers as the last year has assembled around us, however incompetent to the whole scope of its duties, we hope, and intend to be contented and happy in our chair.

BUFFUM PEAR.†

If, in the classification of fruits, we take in consideration not only the quality, but the vigor of the tree, its constant fertility, its fitness to succeed in almost all kinds of soils, and to yield handsome, healthy crops, certainly the Buffum must take a prominent rank in the catalogue of good pears.

As an orchard tree, in a pyramidal, or widely spread shape, perhaps it is unrivalled. As a good bearer, we can safely depend upon its crops. Grafted on the quince, or on the standard, it soon sets to bearing, and those bearing habits keep up with the vigorous development of the tree.

The original tree in Mr. Prescott Hall's fine residence at Newport, Rhode Island, is still vigorous, although not in a well-selected spot, being too close to one of the

^{*} A publisher has even found it to his advantage to devote his energies, and a large establishment, to the publication of books devoted to horticulture and kindred subjects. C. M. Saxton & Co. disseminate, annually, information on the subject, that will compare, in amount, with that of the whole of Europe—not so much in expensive and magnificent publications as in usefulness. The more *recherche* will come in time; the demand for Michaux and Nuttall's costly *Sylva* is increasing annually; a fact in itself that speaks strongly of progressive study and interest.

† See Frontispiece.

stone walls of Mr. H.'s new building. We horticulturists have to thank that gentleman for the special care he took of the fine parent tree, which continues to yield abundant crops. As a proof of the vigor of the variety, we can state that there are to be found many trees grafted on the pear stock from the scions of the parent, which are now as large, and better filled than the original seedling.

The Buffum pear is middle sized, obovate, tapering a little toward the stem. The skin is dull green, overspread with russet, which color goes over to yellow ochre, and dull brown, occasionally dotted or tinged with red and rich brown, when the fruit is about to ripen. The ripening process is slow, and can be retarded by keeping the fruit in cool places without danger of sudden decay; this is almost always the case with fruit of a firm, heavy texture.

Flesh firm, but melting and juicy, with a very pleasant peculiar flavor, and sweetness enough; a little grit around the core is the only defect, which will perhaps be removed by longer cultivation. In some localities the Buffum grows to a larger size, and we could not find that this artificial increase took away any of its rich qualities, as is so often the case with pears and apples. We can safely recommend the Buffum as an orchard or a garden fruit. It can be barrelled, as the Lawrence, when picked in proper season, and carried to distant markets without injury; the pear, when full grown, but still green, being as firm and as solid as any market fruit ought to be.

BEURRE NANTAIS—BEURRE DE NANTES PEAR. *

ONE of the very best of the lately imported varieties; this fruit seems fitted to our climate, as it is found as good in Rochester as in Massachusetts and New Jersey. *Fruit*, long, pyriform, sometimes a little obovate, richly colored with green, yellow, and crimson. *Skin*, smooth and glossy. *Stem*, about one inch, and varying, slender, mostly not inserted. *Calyx*, open in a shallow, wide basin. *Flesh*, melting, very juicy, richly flavored, sweet, pleasant, and without any grit or coarseness. Ripens about the beginning of September, and, as all pears of that season, should be picked when grown to its full size, but before the process of ripening commences. We cannot insist too much on the necessity of picking the summer and early fall pears in proper time. Much first-rate fruit is spoiled by being picked too late. With very few exceptions, no pear ought to ripen on the tree. Summer pears soon completely decay when left to ripen on the branches; fall fruit is blown off, or ripens badly, and is more exposed to all kinds of injuries, and winter pears will not improve after the leaves have been attacked by the first fall frosts.

ROOT GRAFTING ROSES.

BY ROBERT MESTON, ASHWOOD, TENN.

MR. EDITOR: In the *Horticulturist* (Jan. 7, 1856), you publish a short piece on "Root Grafting Roses," by "an English gardener;" as I have practised this mode of propagating the rose for the past ten years, I forward you a detail of my experience.

I adopted the mode somewhat from necessity, as I could not afford to wait the slow process of buds and cuttings; and, as fruit-trees did so well by root grafting, it occurred to me that roses would do equally so.

The best kinds of roots I have ever used for the purpose, were taken from a

* See Frontispiece.

wild species, very common about Nashville, probably the original prairie rose of the gardens ; but any strong growing roots from the strong growing kinds will do ; choosing those from a quarter to one inch through, and cutting them in pieces of from four to six inches long. Rub off the thorns on the back of the scion, as far as the bandage will extend, with the back of the knife. Make the cut on the root about two and a half inches long, and the cut on the scion to correspond, using the same process as in apple grafting.

I generally prepared my ground for planting the previous fall or winter, selecting a piece of sod when I could, and trenching it up 18 inches or two feet deep. As early as possible in spring, I lined the ground off into beds five feet wide, and planted the grafted roots one foot apart in the row, and two feet from row to row. Care must be taken to make the plants firm in the ground, leaving one or two eyes only out.

As soon as the buds begin to push, loosen the surface of the soil with a hoe. Pinch out all the flower-buds as they appear, and when they have made shoots six or eight inches long, pinch them back. In the fall, after a growth of only six months, these plants will be from two to five feet high, according to the strength of the variety.

I have more particularly alluded to the remontants, mosses, and hardy garden roses ; and these varieties, I am perfectly well satisfied, after years of experience, can be propagated in no way with such ease and rapidity as by this.

The other varieties I have, for the most part, rooted in pots. The Noisettes, I have found, do better than the Tea or Bourbons ; in fact, the kinds which produce the stoutest wood do best by root grafting.

I may remark, that when the graft grows, the stock root never suckers ; but when the scion dies, the roots nevertheless grow, showing that that variety can be propagated by the roots.

[An excellent practical article.—ED.]

GRAFTING BY APPROACH.

BY PROFESSOR EDWARD NORTH, HAMILTON COLLEGE, CLINTON, NEW YORK.

MORE than two hundred methods of grafting are described by the horticultural artists of France, a large share of them being curious rather than useful. Grafting by approach is an operation easily performed, and, in some cases, preferable to any other. Its peculiarity is in the fact, that the scion is not separated from the parent stool until after its union with the stock, or that the stems of two trees are united, while each retains its original roots.

The history of approach grafting may be traced back to a remote antiquity. Those who first practised it, probably followed a hint furnished by nature. In the forest, we sometimes meet with examples of grafting by accidental approach. Two branches crossing each other, are rubbed together by the wind, until the bark is mutually removed at the points of contact. A period of calm weather follows, and the two branches unite. The roots of trees frequently grow together in like manner.

In the process of grafting by approach, the steps to be taken are these : 1. Remove a part of the bark and wood from each of the branches that are to be joined. These wounds should answer to each other in shape and size ; should be neatly cut ; and should reach through the sap wood, and sometimes even to the pith.

2. The wounded parts should be brought together, so that they shall exactly cover each other, and touch at all points.

3. The united branches are to be kept firmly together by means of ligatures and props.

4. Grafting wax should be applied, to keep out air and moisture.

5. The scion should not be separated from the stool until its union with the stock is complete. This will ordinarily happen at the end of a year. Sometimes, when the parts unite reluctantly, the ligatures should be allowed to remain until the end of a second year.

It is in favor of this kind of grafting that it can be performed in midsummer. The opening of spring is, however, the most propitious time.

In forming live palisades or hedges, grafting by approach is especially useful. Young trees or shrubs with straight and flexible stems, are planted near to each other in rows, and then so bent that they cross each other after the manner of lattice-work. At the points of intersection, wounds are made as above described, and the stems are kept firmly together by means of ligatures and wax. In time, the interstices of this trellis-work will be filled up with small shoots, and the whole will form a living hedge more compact and impenetrable than any other. The most favorable subjects for this kind of grafting are the hornbeam, beech, elm, privet, willow, and their like.

When fruit-trees are to be grafted by the approach method, the subject must be planted beside a stool, or placed near to it in a pot.

In other respects, the process will be similar. At the end of a year, the head of the subject can be cut off just above the point of contact, and the graft just below. The subject is then removed to its permanent place. It is only in rare cases that fruit growers will resort to this troublesome method.

THE UPAS TREE.

BY W. S.

I WAS glad to see in that article, fertile of thought and facts, the visit to Kew Gardens that you had a favorable word for the Upas tree (*Antiaris toxicaria*). It has had fearful qualities attached to it by some travellers, but these exaggerations have been proved to exist wholly in fancy, and in the love of the marvellous with which travellers were wont to excite the curiosity of their readers. The juice of the Upas is a virulent poison, and, when mixed with the blood, is speedily fatal to animal life. It is a native of Java, where also there is a tract of country, which, owing to a constant emission of carbonic acid gas from its surface, is totally uninhabitable by animals, and even destructive to vegetation. These two independent facts have been united and worked up into a tale of mystery and awe. In the midst of a desert, caused by its own exhalations, and surrounded on all sides by barren hills, a tree was said to grow, stretching wide its branches, and reigning in awful majesty over the devastation it had occasioned. Not only were animals deprived of life by its poisonous effluvia, but for miles around vegetation was destroyed, and the ground covered with the skeletons of its victims. The juice of the tree was gathered for envenoming arrow-heads, and the task of collecting it was assigned to criminals under sentence of death, who were pardoned if they succeeded. By the registers that were kept, it was said that not one in six returned. Two young trees were said to be the only plants of the same kind existing in the locality. This was a fit subject for romance and poetry, consequently we find the following in allusion to those fabulous tales :—

"Where seas of glass, with gay reflections smile,
Round the green coast of Java's palmy isle,
A spacious plain extends its upland scene,
Rocks rise on rocks, and fountains gush between ;

Soft zephyrs blow, eternal summers reign,
 And showers prolific bless the soil—in vain !
 Fierce, in dread silence, on the blasted heath
 Fell Upas sits—the hydra-tree of death.
 Lo ! from one root, the envenomed soil below,
 A thousand vegetative serpents grow ;
 In shining rays the scaly monster spreads
 O'er ten square leagues, his far diverging heads ;
 Or, in one trunk entwists his tangled form,
 Looks o'er the clouds, and hisses in the storm.
 Steeped in fell poison, as his sharp teeth part,
 A thousand tongues in quick vibration dart ;
 Snatch the proud eagle, tow'ring o'er the heath,
 Or pounce the lion as he stalks beneath ;
 Or strew—as marshalled hosts contend in vain—
 With human skeletons the whitened plain.
 Chained at his root two scion-demons dwell ;
 Breathe the faint hiss or try the shriller yell ;
 Rise fluttering in the air on callow wings,
 And aim at insect prey their little stings.
 So Time's strong arms, with sweeping scythe, erase
 Art's cumbrous works and empires from their base ;
 While each young hour its sickle fine employs,
 And crops the sweet buds of domestic joys."

Of course these poetical fancies have no other foundation than the tales above noticed. The Upas cannot exist in the poisoned valley any more than other plants, but flourishes in the woods among other trees. The fact of its growing harmlessly among other plants in botanical collections under cultivation, is sufficient to dispel all these idle fumes of fancy.

BIOGRAPHIES OF DISTINGUISHED POMOLOGISTS, BOTANISTS, AND GARDENERS.

It is the intention of the editor of this work to prepare, occasionally, short biographies of men who have been distinguished in the walks of Pomology, Botany, Gardening, &c. The number of these will depend upon the material that may be accessible ; they will be, perhaps, distributed over a considerable period, but in no instance shall they embrace the names of living individuals.

We have prepared two such : the first is that of William Coxe, the able pomologist, of Burlington, N. J., whom we well remember, and who was connected with the writer by marriage ; the second will be the life of J. O. Loudon, the eminent Botanist and writer on Gardens and Gardening ; the latter will be accompanied by a handsome portrait. The materials for his life have been supplied by his widow, in a most agreeable form, though on too extensive a scale for this periodical. We have been obliged to omit some unessential particulars of Mr. Loudon's career connected with local matters, but we can promise the reader, when it appears, a vast amount of information in this history of one of the most industrious and indefatigable men that ever lived to adorn a profession. To-day, we present a short sketch of

WILLIAM COXE, THE POMOLOGIST.

William Coxe, Esq., of Burlington, New Jersey, was the pioneer pomologist of America. His work is entitled : "A View of the Cultivation of Fruit-Trees, and the Management of Orchards and Cider, with accurate descriptions of the most estimable varieties of native and foreign apples, pears, peaches, plums, and cherries, cultivated in the Middle States of America—illustrated by cuts of two hundred kinds of fruits of the natural size," was printed in Burlington, and published

by M. Carey & Son, in 1817. It is a work exhibiting study, nice observation, and an amount of practical knowledge highly creditable to the research of the author; it continues to be valued by pomologists, and to be quoted by them with approbation. The author left among his papers considerable additions, the result of his succeeding efforts to promote the cultivation of fruit.

Mr. Coxe was born in Philadelphia, May 3, 1762; his father's name was William, and his mother's was Mary Frances; their names will be recognized by Philadelphians, as belonging to families of the first stations, and having pretensions to be enrolled among the best informed, and most refined circles.

An early grant of the Jerseys was made by the English crown to an ancestor of Mr. Coxe, but was afterwards revoked from an idea that it was too large a gift to be held by a private individual. A large tract given in exchange near the northern lakes was accepted, a part of which has continued in the family until very recently.

He received a most imperfect education. The war, which eventuated in the glorious liberty of our country, in its early stages checked all efforts for private improvement, and few or no good schools were open for the instruction of the youth of the land. At nine years of age, he, with some small assistance from a member of his family, began his efforts to acquire knowledge, and being truly industrious, laid the foundation of a remarkably accurate and extended information; his fondness for reading continued through life. Well do we remember his extensive library in his fine mansion on the "Bank" at Burlington, when, as a little boy, we were assigned the duty of bringing away, or taking home, some book or pamphlet from his ever open stores of information. Years, we will not say how many, have since rolled over us, and all but whitened a head even then prying into gardens and conservatories with pleasurable sensations; we have since stood before kings, and the mighty of the earth, but never have felt greater respect and veneration for them than we did when a boy for WILLIAM COXE. His person was handsome, and his bearing that of the "old-fashioned" gentleman, improved by mixing in the best society, but retaining the forms of the greatest politeness and suavity, that modern usages are too rapidly casting off.

An errand to Mr. Coxe's was a cherished privilege; never was the opportunity neglected by him, to place in the hand of his visitor some fruit that he so well knew would be appreciated by a youthful appetite. The finest Seckel pears we have ever seen were not unfrequent deposits; for this fine fruit he had an especial fondness; and, by careful cultivation, he had brought it to great perfection; it is by the absence of this cultivation that it has depreciated, *and by this alone.*

In 1789, Mr. Coxe married Rachel Smith, a most estimable and benevolent lady, a descendant of the first and honorable settlers of that district of New Jersey, a name that was so well known there, and so numerous, that a fine old French emigré used to say, that when any one spoke to him, in Burlington, whom he did not recognize, he always took off his hat, and said: "How do you do, Mr. Smith?" Mr. Coxe, at the time of his marriage, was settled as a merchant in Philadelphia, but being unfortunate in business, he removed to Burlington, where he improved his wife's large property, and materially beautified that pretty little town, now a city, particularly by extending the front of the "Green Bank," and planting it tastefully with fine trees; either the first poplar or the first willow there, his daughter remembers him frequently to have said, was brought in his hand from Halifax, Nova Scotia.

The natural activity of his mind, and his strong desire for improvement, led him to the cultivation of fruit, which he introduced in his collection from all parts of the United States, as well as from England and France. His orchards and his cider

were the talk of the country. So frequent were the demands upon his time for information, and the requests for grafts, that he determined to give the results of his experience in the form of print; the volume now so celebrated, and so scarce, was the result. He previously enlightened his fellow-citizens by furnishing the capital for a nursery business, consigning it to the hands of a partner, Daniel Smith, one of whose lists of trees, for the year 1806, is now before us, and is quite a curiosity in itself.

Mr. Coxe was interested in the profits of the nursery, but formed, perhaps, erroneous views of the demand for that period; the sales never amounted to more than five thousand dollars a year; the half profits on this could have been of little moment to a gentleman then living in the style of the wealthiest people of the period, but it was in the line of his studies so to do, and we all know, that for a favorite hobby we can attempt anything we fancy. The business not being of sufficient moment, it was abandoned to his partner, who continued it for some years with moderate success.

Mr. Coxe was made an honorary member of the Horticultural Society of London, and received, annually, their splendid works, with colored engravings, in consequence of his making known to the members the great value of the Seckel pear, a painting of which, executed by one of the accomplished members of his family, was sent by him through Dr. Hosack to that Institution; but in a few years, he declined this honor, being unwilling to receive their valuable publications for so trifling a contribution.

He was for many years a member of the State Legislature, and afterwards was elected a member of Congress about the time of the last war with England, where he was intimately associated with Daniel Webster, and one of his earliest admirers.

Some unfortunate investments in real estate induced him to consider it prudent to dispose of his beautiful residence in Burlington, and remove to his farm on the borders of the Delaware, near the town, which he improved and cultivated with great interest. The cider made there, much of it from his favorite crab-apple, was sought after from all parts of the country, and made as much noise in the then little American world, as the wine of Ohio does now.

From this period he led a very retired life—devoted to his family and his books, always manifesting a warm interest in the church of which he was a member, and keenly alive to the comfort of the poor families by whom he was surrounded, frequently making sacrifices to give them employment, especially through the winter months.

A sudden and violent cold, terminating in bronchitis, caused his death on the 25th of February, 1831, in the 69th year of his age. He left several children, one of whom, Richard Smith Coxe, has made a considerable figure at the bar, and is a resident of Washington, D. C. One of his daughters is the wife of Bishop McIlvaine, of Ohio.

Such is the bare outline of the life of William Coxe, the pioneer of American pomology, on which it would be useless to enlarge further than to say that his book is a very good one. Much that we moderns plume ourselves upon as new, is old. Even Evelyn, in 1686, said: "Water lately planted trees, and put moist and half-rotten fern, &c., about the foot of their stems, having first cleared them of weeds and a little stirred the earth." This is our modern "mulching" and "stirring." Again, in October, he says: "Trench grounds for orcharding, and the kitchen garden, to lie for a winter mellowing." This is now much insisted on. "Gather winter fruit, that remains, weather dry; take heed of bruising; lay them up clean lest they taint." Evelyn, too, has his select list of pears, as follows: "Messire Jean, Lord-pear, long Bergamot, Warden (to bake), Burnt-cat, Sugar-

pear, Lady-pear, Ice-pear, Dove-pair, Deadmans-pear, Winter bergamot, Bell-pear, &c.;" no doubt great "acquisitions" in their day. His apples, too, were doubtless sought after under the following appellations: "Rousseting, Leather-coat, Winter reed, Chestnut apple, Great-belly, the Go-no-further or Cat's-head," &c. In January, you are to "set your traps for vermin; especially in your nurseries of kernels and stones, and amongst your bulbous roots," and in December, "As in January, continue your hostility against vermin." Perhaps if these good rules were observed now, we should hear less of the depredations of mice.

In short, though Pomology has made immense strides in our day, the more the subject is looked into, the more will it be found that we are often treading in the footsteps of our ancestors. Mr. Cox's treatise deserves every praise that can be given to it, considering its date, and we are sure the most modern of our fruit-growers may still consult it with advantage, though it has been pretty thoroughly culled by recent authors. Among the advantages they can claim is the description of the best and more modern varieties, with a more thorough knowledge of the best modes of planting, pruning, and cultivation.

DWARF PEARS.

BY WILLIAM BACON, RICHMOND, MASS.

WITH many it appears to be an unsettled question whether the propagation of pears on the quince is to meet with sufficient success to warrant increasing attention. In settling the matter to our satisfaction, there are several points to be considered before adopting any definite conclusion.

In the first place, we must consider the manner of working the pear upon the stock through which it is to receive its future nourishment. We have noticed that different nurserymen have different ways of doing the thing. In some instances we have seen them inoculated from six to ten inches from the ground, thus leaving a long shank of the quince, whose growth is slow, between the pear wood and the root. Now, we hold that, under judicious management, the quince, whose roots become the base of the tree, will attain to a great age, and so will the pear. But this horrid shank between the root of the former and the place of union with the latter, breaks all connection by its comparative slow growth between their prosperity and the advancement of the one through the nourishment of the other, by not affording sufficient strength to sustain the top which has risen from it, and for a like reason, being unable to give the nourishment the increasing growth of the pear demands. Hence, the pear becomes sickly, a separation at the point of improper union commences, and death follows. Then come bitter denunciations against dwarf trees, and the inexperienced cultivator declares them all a humbug to get money, and abandons their culture.

There is another class of nurserymen, who either understand their business better, or act from more honorable principles. These, inoculate their stock nearer the earth, so that only a little space is left between the root and the new top. Such trees, we are confident, can be so managed as to secure a vigorous growth and a good old age.

In order to secure these objects, the tree should be set so that the whole of the stock, and a part of the scion will be covered with the earth. With some kinds of trees, we are aware this operation would be injurious, if not dangerous, but the habits of the quince, if the soil is favorable, will fully warrant it, as all who have cultivated it must be aware from the freedom with which it takes root from cuttings. This same freedom will be indulged in by the entire wood of the

stock, so that an increase of nourishing power will be given by planting it under ground. And in this manner of proceeding, the collar of the tree, or point where the roots and top are united, will be formed of the more thrifty wood of the pear—perhaps at the point of inoculation, where, in the course of growth, a change of habit will develop itself.

It has been held by some writers, whose experience entitles their opinion to full credit, that when dwarfs are planted out so that a part of the pear is covered by earth, roots will issue from it, which will increase the age and strength of the tree. Our individual experience is yet too limited to speak confidently on the subject, yet we are certain that roots will be so thrown out, and where proper culture is given we can see no satisfactory reason why they will not become healthy, supporting roots. Admitting it to be so, there can be no doubt but pears propagated in this way will attain an ample size, and fruitful old age.

We have alluded to the different course pursued by nurserymen in propagating dwarfs. The evils of failure, however, do not rest altogether on their way of doing things. Cultivators are quite too apt to neglect their labors, and then, in course of failure, throw back the blame on the nurseryman, his manner of growing, or taking up his trees, or almost anything else that will excuse their own negligence. How often we have seen the roots of trees warmed in the sun, dried in the wind for hours before planting out, and then set in holes dug in hard earth hardly large enough to receive them, and then covered with as much haste as though they were infected with smallpox, with the very first material that comes to hand—turf, stone, hard earth—anything that will fill the hole and kill the suffering tree thrown in, while to give it firmness, a half-a-dozen stamps of a heavy man are made on the earth as the closing act of a hasty operation. When will men learn that trees are things of life, and possess, in delicate proportions, the organs of healthy and successful vegetation? Until they do, there is no wonder that their trees, allowed to suffer from management so foreign to their nature and habits, die, and blast the expectations of their murderers.

It is an admitted fact, by those best acquainted with vegetable physiology, we believe, that all care should be taken in planting out trees to give the root as much of the ease and freedom of nature as possible, and that the space unoccupied by the root, not only in juxtaposition, but its surroundings, should be occupied by a soil best adapted to its future nourishment. The hardy trees of the forest, to thrive well, require this, and how much more do fruit-trees. That dwarfs require it in a much greater amount, no one conversant with their growth and habits will deny. Of course, then, the ground they are to occupy should be well prepared before they are placed in it, by a thorough subsoiling or deep and uniform spading, not confined merely to the few feet the tree occupies, but all the space between the trees. Spading is preferable, because it enables the operator to disturb the minutest particle of soil, and what is better yet, to invest it completely, that is, to throw the top soil, well ameliorated by previous culture, to the bottom, and bring earth which has never felt the rays of the sun, to the surface, where atmospheric influence will, in due time, improve and fertilize it.

How *seldom* this thorough preparation of soil is given, we shall not attempt to decide, but where it is given, and proper trees are properly planted, we have not a doubt but the culture of dwarfs may be sufficiently successful to warrant its adoption in every garden.

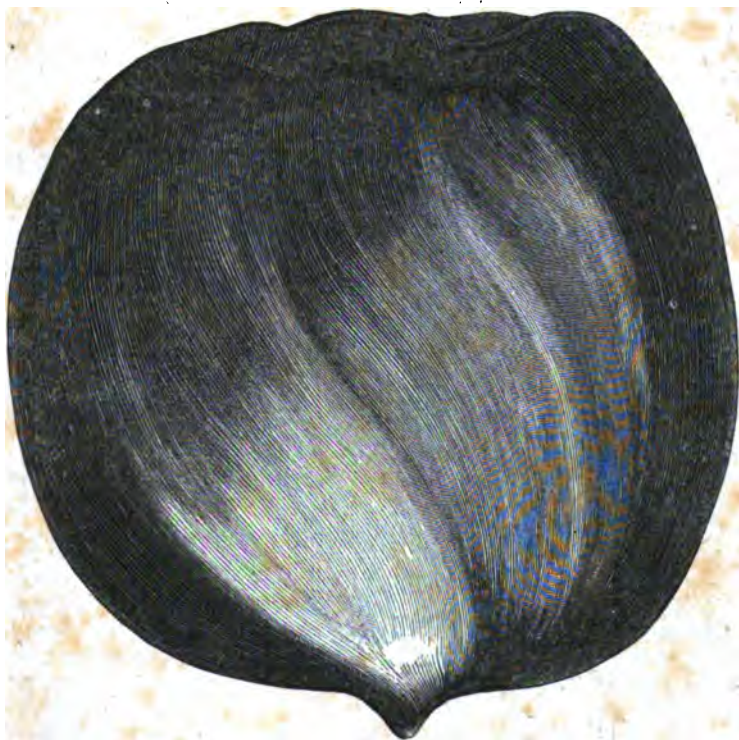
In the midst of diseases to which such trees are liable, we have as yet discovered none but the blight. The trees should be carefully watched to discover its earliest approach, and as soon as it shows itself, the infected part should all be removed with a sharp knife, and grafting wax applied over the wound. We have

tried this in a few cases, and in all of them the disease was stopped, and a sound, healthy bark had entirely covered the wounds in autumn. It requires only just the amount of time which every cultivator ought, for pleasure's sake, to spend among his trees daily, and a little close watchfulness to discover the small black spot in the bark and remove it.

HYBRIDIZING.

BY A. N. WYLIE, CHESTERTVILLE, SOUTH CAROLINA.

I HAVE been experimenting, for several years, in hybridizing. I have about fifty trees, some of which have been tested, and the greater number of them will bear this summer; they are chiefly peaches and nectarines. My chief purpose is, to fill up the space between the time of ripening of the heath cling (which ripens here from 10th of Aug. to the 1st of Sept.) and our peaches, which ripen the last of Oct. and 1st of Nov. I have, in late falls, seen soft peaches the 15th of Nov. I am satisfied, that by the process of crossing, we can produce fine varieties, ripening here from the last of May to the 1st of Nov. I will take occasion, this summer, to make drawings, and give a full history of the result of my experiments. Inclosed I send you an exact drawing, as regards size and form, of a peach which was one of the last three remaining on the tree on the 15th of Sept.; it was produced by impregnating the heath cling with a large yellow freestone peach,



PEACH FROM A HEATH CLING AND A YELLOW FREESTONE.

somewhat resembling Crawford's late malocoton. It is a large, heavy freestone peach, seed small, flesh yellow, with rather dark-red skin where exposed to the sun, of excellent flavor, and, I think, will prove quite an acquisition for that season. I have tested two or three very superior varieties, produced by impregnating the heath cling with the Columbia. In all my experiments, I find that, in crossing clingstone and free peaches, the variety produced is always a freestone—proving that the freestone is the original form. Also, in crossing nectarines and peaches, and I produced a number, I have never yet produced a smooth-skinned peach or nectarine; proving what is already known, that the nectarine is merely a sport. I have some Stanwick nectarines which will bear, or, at least, bloom, this spring; it is my intention to cross them with a number of our best and largest varieties of peaches. A few years ago, I sent for the monstrous Pomponne Peach, for the purpose chiefly of crossing it with other peaches, as it was represented to be of great size, but I find it is not true, the blossoms being small. Will you do me the favor to inform me where the true kind is to be procured? My only purpose is to use it as a base for crossing other superior varieties.

I have procured some tubers of the *Dioscorea batatas*, and have sent for some tubers of the *Dioscorea sativa alata*, for the purpose of hybridizing, so as to produce a large variety suited to our climate. As I have no work which gives any particular account of the latter varieties, their botanical description, or mode of cultivation, I would take it as quite a favor to give me some information on the subject which may further my object.

PRUNING OF PEAR-TREES.

BY B.

NEW JERSEY.

BARRY, in his *Fruit Garden*, very truly remarks: "*Too many people imagine that trees can take care of themselves, as trees in the forest, on the ground that nature preserves a balance in all her works; but it should be borne in mind that a fruit-tree is not exactly a natural production. It is far removed from the natural state by culture, and, the further it is removed, the more care it requires.*"

Upon this theory is based the whole management of the improved fruit varieties. *Civilized* fruit (as Van Mons used to call the more refined varieties) are the offspring of art and human skill; and, as all artificial, and of course more delicate products do, require artificial treatment. Hence the endless treatises on pruning and training; so many, indeed, that one feels deterred from their perusal by their length and dogmatical appearance. Let us try to compress in a few hints and facts, the main principles of that most important operation.

We confine ourselves to the pear-tree for the present, and chiefly to the pear-tree of the garden, which requires a pyramidal or conical shape, and a mode of treatment different from other species of fruit-trees.

In planting a tree in its ultimate site, few persons pay any attention to the bent or direction of the tree. This ought to be our first care; for scarcely any tree of a certain size is so straight as not to show a curving or arching disposition. This curve or arch must always be turned towards the southwest to be able to resist, in some measure, that peculiar influence which, in this country, with the ocean in the rear, affects the tree just in the same way as in the old continent with the ocean in our face. In Europe, we generally think that this repulsive influence is owing to the combined action of the sun in its greatest power (2 or 3 o'clock), and the prevailing winds of the Atlantic. Whatever may be the reason, the

same result takes place here with the western *land winds*; and the isolated trees recede from that point, body and limbs; the pear and peach-tree more than any others.

This influence is very *marked* on the limbs—always plenty of them on the north and east side; and a deficiency on the southwest side. We have, therefore, to keep the tree as well supplied as possible on that quarter, cut the leading shoot just above a bud pointing to the south or west, and remove what is too abundant on the north or east side.

The best, sturdiest trees, the handsomest pyramids, are those that have been often cut back (*recépé*), to increase the strength of their basis and to compel them to make "their own wood in their ultimate place;" the French call that "*faire bois neuf sur place*."

The position of the buds, and consequently of the branches, is beautifully symmetrical and spiral, as if nature intended to give her products the best chances for equilibrium. We must take advantage of it; and, if we do not neglect a tree, symmetry will be the law of its general shape.

Nothing is more irrational than to preserve every branch which the tree brought from the nursery, where there is not leisure enough to make pyramids in the proper time (say two or three years from the bud). It is not advisable to suppress too many stout limbs at once in planting. We have already hinted at the proper mode of removing those branches gradually, without much injury to the tree; but when, afterwards, we have the tree under full control, we must not allow a branch "*to make opposition* (to compete) *with the body*," as Van Mons termed it. He says: whenever such competition takes place, cut the limb, wherever it may be, till equilibrium is restored. Those kind of limbs, when loaded with fruit, split from the main body, and I have seen scores of fine trees destroyed in that way. They are ill-looking things, unmanageable, and do not bear more fruit, on an average, than regular, well-pruned branches would do, with infinitely more safety.

Great is the number of persons who would not cut a limb, nor suppress a fruit-bud. They have no patience, and *must* have the fruit, let the tree afterwards be spoiled! This is not a wise policy. By the time *I* should have my trees *mature*, fitted and able to bear sound fruit on well-disposed branches, *you* will have to go back, and, to *save your tree*, to commence the operation I just finished. The loss of a few fruits on a young tree is nothing compared with an interruption of regular crops in the *proper time* of bearing. Let us first have well-trained students before we have doctors and lawyers. Let your tree shape, educate, and strengthen itself under good management, *while young* and of *small crops*, and afterwards you may safely rely on yearly increasing crops, with full security, and without props, straps, and all kind of odd looking, and disgraceful supports. We planted, and enjoyed the fruits of thousands of trees, and rarely, if ever, had to *support* a tree in an erect and proper position. A pole bound to the tree *rubs* that side, destroys the limbs *there*, and makes bare spots forever. The pruning knife, with a proper dose of patience, is the safest propping and the most satisfactory in its ultimate results.

When a tree is well shaped, and of the required age and size, it will bear its fruit with a symmetry and equipoise truly astonishing; but, to attain that result, the branches ought to be nearly all of proportional size with the size of the main body; more slender and shorter when coming nearer to the top of the pyramid.

For a garden, the best shape is undoubtedly the pyramid, or the conical. We always found the pyramidal form best, the most graceful, and the most easily managed. With some varieties, indeed, it seems almost the only possible form; such are the *St. Michael Archangel*, *Baronne de Mello*, *Fondante de Noël*, *Duc de*

Brabant, &c. &c., which cannot be brought *under* any other form. Another advantage is that, by the pyramidal shape you get the fruit-spurs closer to the main body, with light and air enough to ripen all, and without exposing your fruit to be rocked and swung, stunted and smashed, by the autumnal winds, going the rounds of the compass at every blow; while the "accidental" loss of a branch is comparatively nothing, and easily remedied.

Some varieties, it is true, bear only at the end of their branches, as the *Madeleine*, *Catillac*, &c.; but when they grow old enough under the pyramidal form, they bear closer, and I have seen pyramids of *Catillacs*, *Franc-réals*, and *Joséphines*, just as *full* as any orchard tree could be with its open and distended form.

A great deal has been said about the proper time for pruning. As applied to large orchard trees, the removal of stout limbs can remain *sub judice*, although we think the spring the best time. We only intend to speak about the regular pruning of moderate, or full-sized pyramids, or, of such trees as have been submitted to some previous treatment. Our long experience has confirmed us in the truth of the old French rule,

"Taille tôt, taille tard,
Rien ne vaut taille de Mars;"

which, translated, sounds as—

"Prune early or late,
No better time than March."

We have different reasons for this. Our first and principal is, that some varieties, chiefly in severe winters, will not bear pruning before winter or during cold weather. Secondly, the healing process commences right after the operation, without injury by frost or exposure of wounded limbs. Thirdly, we see the blossom-buds more swollen, and can distinguish those at a glance; and last, but, by no means least, we retard the blossoming and the starting of the vegetation, at least for some days; which, in our uncertain climate, is a matter of no small consideration; for hardy varieties, which can bear the operation before winter (as *Lawrence*, *Sterling*, *Buffum*, &c. &c.), with impunity, come out rapidly in the spring.

If you wish a pear-tree to bear early, to test a new or favorite variety, let the pruning be very moderate. A severe pruning will cause the spurs to go over to *wood* or *shoots* instead of fruit bearers; and the blossom will drop, or set with deficient fruit in consequence of the disturbance of the general economy of the sap. But, we again repeat, if you want sound, handsome, and good bearing trees, "have patience," and do not spoil a valuable colt by driving it, before it is fitted to the harness. Please remember that a pear-tree is not a currant bush, nor a wild peach-tree; which last, by the by, would be all the better also for a systematic pruning.

In pruning young thrifty trees, take off a good part of the terminal shoot. The sap flows with great power to the top, and that part of the tree is much exposed to be overfed, and in consequence, to droop and bend down for want of proportional strength.

These are, in a brief way, the main rules. Everybody knows that in pruning we must avoid *forks*, or too many branches starting from one limb, because if that limb should die, an irremediable void is formed, and because it disturbs and destroys the equilibrium of the tree by calling for too much food. Everybody knows that all good pruning must consist in filling *vacuums*, and thinning out thickly branched parts. That a shoot ought to be cut, clean, just above a bud,

which bud must be on the under, or outside part of the shoot, rarely or never in a vertical position, because it would tend to bring in the construction of the tree more of those vertical or upright shoots, every one of which ought to be carefully cut away, as absorbing, by a natural privilege of its vertical position, all the sap, and destroying the harmony of the tree. It follows that a limb inclined at an angle of 45° , or a lower bend, is more fitted to make spurs, and go over to bearing by the *deprivation* of superabundant sap. *Inclined*, or *down-bent* limbs, of course, make a tree bear, but are so injurious to the growth of the tree that we have seen many of the stoutest pyramids, and most vigorous varieties, give up at once and linger or die, if not immediately submitted to a regular mode of pruning. An angle of 45° is the best direction for the limbs of a pyramid. They make good bearers, without injuring the health and vigor of the tree.

I fear, Mr. Editor, that my remarks have taken more room than I intended to give them, and still there is so much more to be said; but I hope that some may be induced to let trees be *trees*, instead of bushes, and wait a little longer for better and more fruit, by a rational treatment of that invaluable ornament of our gardens and desserts.

THE OLD TOPIARY WORK.

OLD-FASHIONED gardening embraced a great amount of topiary work, or trimming shrubbery into figures, without which the grounds adjoining the house were considered incomplete. This continued till the time of Addison and Pope, whose better taste attempted a reform.



AN OLD CLIPPED YEW-TREE.

We introduce a specimen from Elvaston Castle. It is an old clipped Yew, forming an arbor 14 feet square, and 18 feet high. It was moved twenty-five miles many years ago, and is supposed to be upwards of one hundred years old. It is one tree, the stem running up the centre, and is perhaps one of the best examples of the topiary treatment extant.

Though some might object to the figures on the top, a bush or tree, in this manner, so as to form a bower, or shelter, is not improper; it is allowable to make utility the subject of ornament, a rule founded in nature and reason; few objects are more interesting than an arbor made by training the limbs of a weeping ash, grafted high up, or trimming a yew into a useful shape. Box-trees and bushes are sometimes thus treated, to the great amusement of young persons.

Fantastic topiary work may be said to have been killed by Pope, who wrote the following satirical article in the *Guardian*, No. 178. Our readers will pardon the space it occupies for its information and humor. After describing the Garden of Alcinous from Homer's *Odyssey*, he goes on:—

“How contrary to this simplicity is the modern practice of gardening! We seem to make it our study to recede from nature, not only in the various tonsure of greens into the most regular and formal shapes, but even in monstrous attempts beyond the reach of the art itself. We run into sculpture, and are yet better pleased to have our trees in the most awkward figures of men and animals, than in the most regular of their own.

‘Here interwoven branches form a wall,
And from the living fence green turrets rise;
There ships of myrtle sail in seas of box;
A green encampment yonder meets the eye,
And loaded citrons bearing shields and spears.’

I believe it is no wrong observation, that persons of genius, and those who are most capable of art, are always most fond of nature; as such are chiefly sensible, that all art consists in the imitation and study of nature. On the contrary, people of the common level of understanding are principally delighted with the little niceties and fantastical operations of art, and constantly think that finest which is least natural. A citizen is no sooner proprietor of a couple of yews, but he entertains thoughts of erecting them into giants, like those of Guild-Hall. I know an eminent cook, who beautified his country-seat with a coronation dinner in greens; where you see the champion flourishing on horseback at one end of the table, and the queen, in perpetual youth, at the other.

For the benefit of all my loving countrymen of this curious taste, I shall here publish a catalogue of greens to be disposed of by an eminent town gardener, who has lately applied to me upon this head. He represents, that for the advancement of a politer sort of ornament in the villas and gardens adjacent to this great city, and, in order to distinguish those places from the mere barbarous countries of gross nature, the world stands much in need of a virtuoso gardener who has a turn to sculpture, and is thereby capable of improving upon the ancients of his profession in the imagery of evergreens. My correspondent is arrived to such perfection, that he cuts family pieces of men, women, or children. Any ladies that please, may have their own effigies in myrtle, or their husbands in horn-beam. He is a puritan wag, and never fails when he shows his garden, to repeat that passage in the Psalms: ‘Thy wife shall be as the fruitful vine, and thy children as olive branches round thy table.’ I shall proceed to his catalogue, as he sent it for my recommendation.

‘Adam and Eve in yew; Adam a little shattered by the fall of the tree of knowledge in the great storm; Eve and the serpent very flourishing.

- 'The tower of Babel not yet finished.
- 'St. George in box; his arm scarce long enough, but will be in condition to stick the dragon by next April.
- 'A green dragon of the same, with a tail of ground-ivy for the present.
- 'N.B. These two not to be sold separately.
- 'Edward, the Black Prince, in cypress.
- 'A laurestine bear in blossom, with a juniper hunter in berries.
- 'A pair of giants, stunted, to be sold cheap.
- 'A Queen Elizabeth in phylææ, a little inclining to the green sickness, but of full growth.
- 'Another Queen Elizabeth in myrtle, which was very forward, but was injured by being too near a savine.
- 'An old maid of honor in wormwood.
- 'A topping Ben Jonson in laurel.
- 'Divers eminent modern poets in bays, somewhat blighted, to be disposed of, a pennyworth.
- 'A quickset hog shot up into a porcupine, by its being forgot a week in rainy weather.
- 'A lavender pig, with sage growing in his belly.
- 'Noah's ark in holly, standing on the mount; the ribs a little damaged for want of water.'

Lord Bacon, in the forty-sixth of his essays, describes what he calls *the platform of a princely garden*, which is very superior to the description which Sir William Temple has given in his essay, entitled *The Gardens of Epicurus*, written in a subsequent age. This is alluded to by Mason, in his *English Garden*, thus:—

"Yes, sagest Verulam,
'Twas thine to banish from the royal groves
Each childish vanity of crisped knot
And sculptur'd foliage; to the lawn restore
Its ample space, and bid it feast the sight
With verdure pure, unbroken, unabridg'd:
For verdure soothes the eye, as roseate sweets
The smell, or music's melting strains the ear."

CRITIQUE ON THE MAY HORTICULTURIST.

Evergreens, and other Matters.—Evergreens are picturesque in many grounds—beautiful, too, when both soil and climate suit them. Otherwise, they had better be let alone. A foxy looking Evergreen, studded with bare spines, striking out like "quills upon the fretful porcupine," is anything but agreeable to the eye or taste of one who loves luxuriant vegetation in trees. The great difficulty which I have observed with Evergreens in park or lawn culture is, that they are stowed in promiscuously and thickly among the deciduous trees, and, after a few years of fine conical growth, they become crowded, the lower branches fade and die, and their entire beauty is lost in bare poles, with frizzled tufts of spiny leaves at the tops, a burlesque only upon the noble family of which they should be honored specimens. If you affect Evergreens at all, give them abundant breadth of space; then let them have their entire will of sweep, and range, and spray, and they become striking objects of admiration and beauty. My heart has been so often saddened by seeing the poor crippled things stuck into a crowded door-yard, or back passage, and then barbarously clipped into some grotesque imitation of nothing which a tree should be, that I have wished for the moment they were out

of sight and existence. I have serious doubts, after all our trials of exotic Evergreens, whether our own grand and stately pines, and hemlocks, and spruces, and cedars, are not the best, as well as the most effective, for all ordinary purposes, that we can cultivate.

You have so well handled "other matters," Mr. Editor, that I have not a word to say about them.

Dr. John Lindley.—A self-satisfied gentleman, as the picture shows him. I wonder how he'd look if he should discover a *bug* on the other side of the leaf he is so quietly admiring! A great man in his way, Mr. Lindley! and, like most other men of genius, possessing peculiarities which he would be quite as well without. That he should speak lightly of America, as you observe on page 240, is not remarkable, for these one-idea people are apt to fancy, that a subject of which they know little is hardly worth investigation. A man, no matter how high his pretensions or attainments in science, who looks contemptuously on a country like ours, is quite apt to be a flatterer of the rich or great at home. Instance the great lexicographer, Johnson, who, while sneering at Scotland and its profoundest men, poured out his humblest adulations to the wife, successively, of a wealthy London brewer, and an Italian musician.

The White Grape Currant.—A good fruit, no doubt; but, in the long run, scarce equal to the White Dutch, under the best cultivation. This latter fruit, in its long bunch, fine size, transparent berry, and delicacy of flavor, coupled with its exceeding hardness, stands yet without a rival, as a housekeeping currant, among the white ones. By the way, why is it that *almost* everybody stows away these excellent, useful fruits thickly under their fences, where they can get scarcely any sun or flavor, when by planting them in open grounds, six feet apart, and giving them good cultivation, they are among the choicest fruits of the season, and, in eating for six or eight weeks?

Remedy for Girdled Fruit-Trees.—"The sovereign'st thing on earth was parmaceti, for an inward bruise." I never knew a disease, from the *itch* to the *cholera*—from the measles to the consumption, for which somebody could not prescribe a *certain* remedy. You may save the girdled tree, by following the prescription of Mr. Lumm, for a few years; but where the bark is eaten clean off, the trunk will decay, and leave a deformed, defective body. Better at once root it out, if you want a *permanent* tree, than attempt to patch a thing that is destined, under ordinary circumstances, to outlive both you and your family. I have tried all these nostrums with mice-bitten trees, when the girdling has been *thorough*, and know them, for all *efficient* purposes, to be a temporary benefit. If a strip of *living* bark is left, or only the *outer* skin be eaten off, binding up the tree with cloth, or the application of a salve, will restore it in time, as the sap, through even a hair's-breadth of continuous bark will do wonders; but, as a rule, *cleanly* girdled trees are not worth the trouble of nursing.

Climatology.—A good paper. There is a great deal in the subject of acclimating vegetables from their native climate into a colder or warmer one. Many years ago, the sweet potatoe was not grown north of Virginia. Now, abundance of the finest are raised in Jersey, Long Island, and some even in Connecticut, and, they say, in Western New York. So with the sugar-cane. It is now grown two degrees further north in Louisiana than fifty years ago, and equally good in quality. This subject will bear any amount of study, and experiment with profit.

Pear Culture, No. 3.—I hope Dr. Ward is not done with the subject; when he has, I have a word or two to say. Till then, I *now* say, *en passant*, he is perfectly right. The cat will come out of the bag, in this dwarf pear business, after awhile. The nurserymen have had a capital run of them for years past, and not a small

one out of me, for a moderate man. I wish we *orchard* pear growers, not nurserymen, could have a "protracted meeting," and opportunity to "tell our individual experience;" I *guess* we'd have a sympathizing time of it, and that without declaring a "dividend" in the way of profits!

Notes on the Cultivation of the Apricot.—Just one of those revelations of *fact* that illustrate what strange, capricious subjects these light-skinned stone fruits are. The Hudson Valley proper, with a few miles up its tributaries, between Poughkeepsie and Sandy Hill, is the only existing *natural* plum and apricot region I know. These fruits usually grow successfully in that section of country. What the cause, is yet to be shown; climate, soil, and *something else*, all three put together, probably. In many other places, to my certain knowledge, with all the care and pains-taking recommended by Mr. Tompkins, a dead failure has resulted in these fruits. Still, I would by no means dissuade any one wishing to cultivate them from trying every possible experiment.

A Third Winter on the New Evergreens.—Mr. Sargent is entitled to the appellation of a public benefactor to Evergreen admirers. With a position to give them a thorough trial, and a determination to mark their individual progress and success, or the want of it, he is *reliable* authority on the subject for all localities of 40½° and upwards, north latitude.

Gutta Percha.—A wonderful plant; and made into as many uses as the elephant makes of his trunk. But you don't enumerate all of them. I am told that even *consciences* are made of it. Is that usual?

Gossip.—I like this. Half the mental pleasure of this hum-drum world is drawn in from the colloquial interchange of ideas commonly called "gossip." There are as many varieties of gossip extant in the different ranks of humanity as Mrs. Opie enumerates there to be of "lying." There is *low* gossip, and *scandalous* gossip, and "gossip about town." Then there is gossip of the "upper ten"—all these don't amount to much. And then there is the gossip of literary, professional, and political coteries, over their after-dinner wines—rare, rich, and racy, according to the calibre of the brains concerned in it. And, last of all, is the "gossip" of the *Horticulturist*! Very capital in its way, too, Mr. Editor—full of information and suggestion. But I wish you would *split it up* a little; that is to say, divide it into paragraphs. You drive it into such continuous density of type, that one scarcely knows when to pause and take breath. Do give us a page or two each number, and so subdivide the different heads of it that we can take in one idea at a time, for my old head is so obtuse, that so many different topics makes it all of a jumble before I get through with it.*

The Lawton Blackberry.—"They say" that Mr. Lawton has no business to give his name to a blackberry which *another man* discovered *growing wild* in New Rochelle, and the growers thereof—the aforesaid Mr. Lawton excepted—prefer to call it the "New Rochelle Blackberry." If half the stories related of this wonderful fruit are true—and, from the characters of those who tell them, I cannot doubt—it should be in everybody's garden. I am trying the thing in a small way myself; but the fruit is yet in *future*.

The New York Horticultural Review.—So, "out brief candle," is added to this,

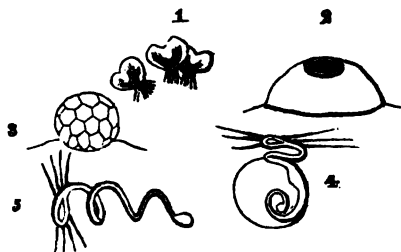
* The object we had in view in *not splitting it up*, was to pack away a large amount of suggestions in a small space, for Jeffreys and others. We have a strong suspicion that our valued correspondent is joking, as he sometimes does; but just as we are finishing this paragraph, we are setting off to see after our friends in his direction, and shall endeavor to prescribe for his head, and teach him to mind our stops, read the matter slowly, say a paragraph every hour or two, and make notes of what is memorable; so that the tangle or jumble he gets into may be avoided in his future dips into our "gossip."—Ed.

as to sundry other serials which annually expire, embracing quite as popular, but much less valuable topics. I regretted to see that magazine started, as with yours and Hovey's *Magazine*, already in extensive circulation, I felt assured it could not pay. You, Mr. Editor, have given the plain reasons why another elaborate horticultural publication cannot be supported *now* in America. We are yet young, in the business of refined cultivation, in pretty much everything. We are learning slowly, though surely, and when the *Horticulturist* has ten or twenty thousand subscribers, it may do to talk about another magazine of the kind some hundreds of miles west or south, or north of you. Meantime, your paper will do; and if it had three contributors where it now has one, it would be all the better, for then would there be a chance for *my* gossiping to be crowded out, to its readers' profit, I presume.

JEFFREYS.

FAMILIAR BOTANY.—HAVE FERNS SEXES?

OUR fathers believed that when a fern produced its seed, the little brown grains



at the back of a fern-leaf were all that nature had provided for the purpose. Linnæus thought so, and so did everybody else till a quick-eyed Polish gentleman, Count Leszezye-Suminski, found out the mistake. I will not ask you to pronounce both the noble naturalist's names, for letters arranged like these are unfamiliar to our English mouths; but it is proper that so great a discoverer should enjoy such immortality as the *Gardeners' Chronicle* can confer. This great event

happened in the year 1848, when it was made known to His most gracious Majesty King Frederick William IV. of Prussia.

The reason, or at least one of the reasons, why nobody saw before what Count Suminski saw in 1848, was that nobody began at the beginning when they studied the nature of ferns. It is indeed to be doubted whether many people, even in this enlightened age, know what the beginning is. Let me endeavor to make this clearer.

If you look upon the damp ground where ferns shed their seeds, you may find it covered with tiny green scales not very unlike the spots called hearts in a pack of cards, only with a few hairs for roots, sprouting from near the pointed end (see Fig. 1). The easiest place to find them in, is the surface of a garden pot or of an old wall, in a damp and shaded fernery. There they lie flat upon the ground, looking like infant liverworts. They are the beginnings of ferns, as you will presently see.

Lift carefully one of these bodies and place it under a microscope (one of Smith and Beck's educationals will do), the underside upwards; you will find that it is a little convex, and on the convexity stand a few very small projections looking like blisters, but of two sorts. One sort has a hole in the end (Fig. 2), the other is something like a netted ball (Fig. 3). They have received various names; let us call the first a *pistillid*, the second an *antherid*.

Here we have what are now styled the sexes of ferns. The pistillid is the lady, the antherid is the gentleman; strange ladies and gentlemen it must be confessed.

Mrs. Pistillid is only a nest, with a little egg hidden at the bottom. Mr. Antherid is a sort of pimple. You may see the egg by looking into the nest; but when you cast your eyes upon the pimple you will probably see nothing except a netted surface. But if you squeeze it, out come little transparent bags, in each of which is rolled up spirally a sort of vegetable worm. In time, the worm uncoils, gets out of his bag and shows himself. In Fig. 4 he is seen half extricated; Fig. 5 you have him wriggling about. And a very surprising fellow he is with a tail like a corkscrew, and a head furnished with a bristly beard.

When the worm aforesaid sets out upon his travels, he moves over the surface of the fern-scale in search of a nest (pistillid), and when he finds one he gets in if he can; at least so says Count Suminski. That feat being accomplished, a wondrous change takes place. The egg grows up into a perfect fern-leaf; at the same time the green beginning shrivels and disappears. When a start has once been made, the leaf becomes longer and longer, and broader and broader, another leaf unfolds from its bosom, in its turn to give birth to more, till at last all are old enough to bear brown grains upon their back or edge. And then the destiny of the fern is accomplished.

It is out of one of these grains that the seed falls, which sprouts into new beginning such as I have first described (Fig. 1).

Is all this really true? A good deal of it certainly is. Acute observers, since Suminski's time, have so far verified his statements that no doubt exists about the antherids, and the pistillids, and the crawling vegetable worms, and the uprising of a perfect fern-leaf from the nest-like pistillid. Such things are, however, extremely difficult to see, and can only be witnessed by well-trained eyes, armed with well-made achromatic microscopes, in the hands of dexterous observers. They must be taken on trust, as are mountains in the moon, by those who have no telescopes. What is really doubtful is, whether the worm crawls into the nest, and how it gets there. Men, however, have come to believe in the phenomenon; and we cannot contradict them, for it is hard to prove a negative.

And these are what are now called the sexes of ferns.—R. E., in *Gardeners' Chronicle*.

AN OCTAGON HOUSE.

MR. EDITOR.—DEAR SIR: Can you give me any information in regard to an octagon cottage or villa? Have you ever seen one? How does it answer the expectations of the occupant? And where is it? are three questions I would much like to have answered. In Vol. 4, p. 516, May, 1850, of the *Horticulturist*, I find a plan that seems to combine almost everything that taste and convenience can desire; and to such a degree, that I am perplexed to understand why houses of this kind are not common with us. Is there some difficulty not apparent in the plan? And will any one let us into the secret? I have heard the remark, "that no man who builds one octagon house will ever build another," but the reason of it I cannot learn.

Respectfully yours,

M. P., *Sing Sing, N. Y.*

Our correspondent wishes us to give him some light upon the subject of octagon houses, and the reason for the remark, that "no one who has built an octagon house will ever build another." The objections to this description of house are three: 1. The poor architectural appearance. 2. The inconvenience of the "conveniences." 3. That the superior cheapness of this description of house is not so great as it has been made out to be. Mr. Page, the author of the plan which will be found in the May (1850) number of this magazine, has, however, in

dealing with this form of house, made the best that can possibly, we think, be made of it. He has shown great taste and knowledge of the "agremens" coveted by an American family of average wealth, and, if possible, greater ingenuity in packing these within the smallest possible compass; and the rustic Italian forms into which he has cast the exterior, are the most suitable which could have been selected, making, out of the ungraceful general outline imposed upon him by the plan, quite a tolerable picture. Imagine, however, that octangular prism, a magnified copy of the little wooden parallelopipeds used in teaching children solid geometry, dropped into the middle of any sweet, natural landscape, with its careless graces, and flowing lines of river, mountain, and tree. Would not the very trees, with their grand and lovely irregularity of spray and mass, seem to stare upon it and laugh with all their leaves at it! One would think no one retired from business, and with an eye to economy, would wish to build such a copy of a pill-box, or, rather, of an eight-sided bottle, which Mr. Page's observatory (a great convenience internally, and rather an improvement to the appearance) supplies with the appropriate stopper!

The pyramid harmonizes with the dead level of the Egyptian sands, or of the plain of Waterloo, but even this, the most pleasing of simple geometric forms, would seem ill at ease on an American hillside, and much more so the octangular prism. The only way to soften the abrupt perpendicularity of this form, and carry its lines gradually into those of the landscape, would be to throw out (as Palladio has done in the Villa di Capri, which is of this form), on four of the eight sides a portico (or other *wing*), of about a story and three-quarters in height, and carry them down to the ground lines by flights of steps; but then, this would destroy the only beauty of the plan, its cheapness! Another difficulty of the appearance is, that chimney-tops, an ornament to any other building, become a terrible thing in this, as the draftsman has not failed to perceive, but has judiciously shaded them dark, and put a dark tree behind each, so that they are hardly noticeable. As to the second part, the conveniences, they are certainly many and good in Mr. Page's plans, but the mistake is in supposing that these conveniences, obtained, as they are, at a less cost than in the square plan, are yet equal, in every respect, to those obtained in that plan. It will be found to be a great mistake to expect the same accommodation in a 15 by 19.8 room, with the corners cut off, as in one finished square. The furniture is comparatively crowded in such a room. Imagine, for instance, a lady at the piano in the "sitting-room;" her position will be thrown much further from the long partition, and more toward the middle of the room, than if the piano were placed in the corner of a square-room of that size. The same crowding will take place in the chambers, in which, by the way, all the beds are drawn too small by one-third at least. Again, the glass "vestibule" is thrown out of the side of the house as a porch would be in a square house, but, though outside of the building, it is not a porch, and if a porch were wanted, one would have to be built extra. It is not even a "vestibule" proper, being the only space between the parlor door and outer air. This is to be considered in estimating the alleged superior cheapness of this over the square plan. Look, again, at the "boudoir." This appears to have what would be in a square house, a bay window, outside of, and extra to the size of the room. Here it constitutes half the room, which is thus half outside the octagon. A defect in this mode of planning is placing the kitchen so near the living-rooms. This could be obviated just as in a square house, by making a back-building, but then this would darken one side of the octagon, besides destroying its symmetry, its only pretension to beauty being that, as Mr. Page says, it looks equally well (?) on all sides. Then, when we look at the pitiful narrow passages, the multiplicity of corners (each of which,

as every mechanic knows, increases the expense), the skew angles, and the cutting of joists and rafters necessary for the octagon, we shall find the supposed cheapness gradually melting away, and be convinced that he who buys a small saving at the expense of such a hot, crowded, and eccentric house, will be decidedly "sold" in the bargain.

In a square house of the same length and breadth, and similar accommodation, all the rooms are larger and more convenient. Of course, a square house, with rooms no larger than those of the octagon, would be less than it in length and breadth, and, consequently, as cheap, or cheaper.

DESIGNS FOR IMPROVING COUNTRY RESIDENCES.

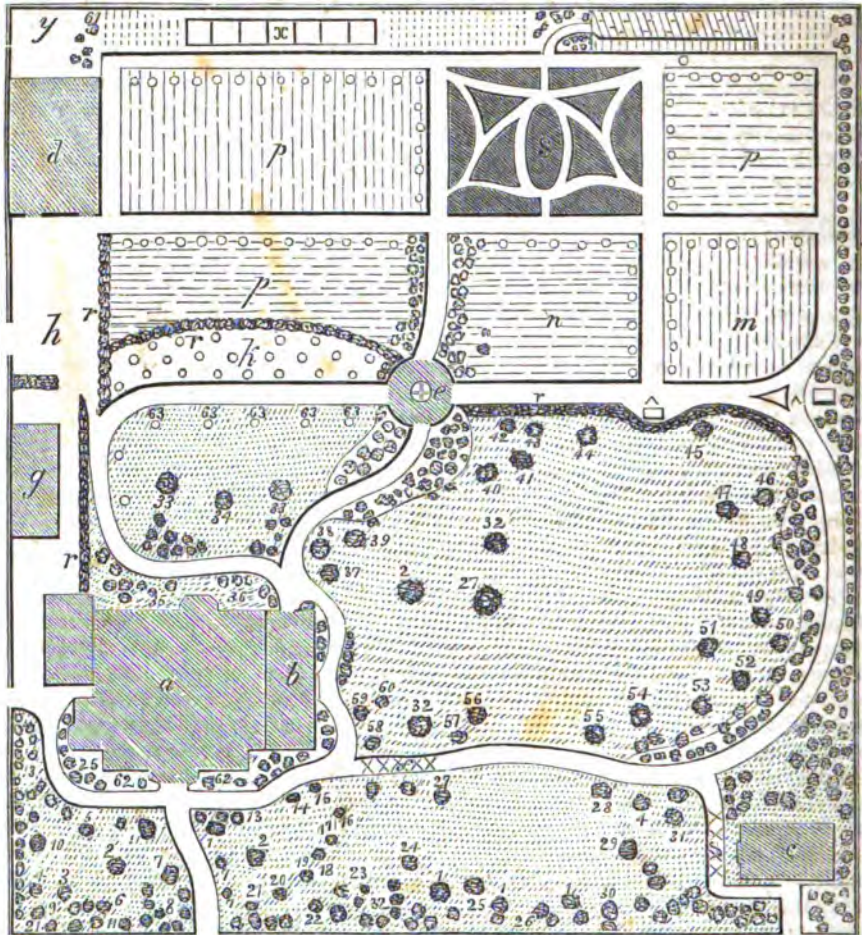
No. 2.

BY WM. SAUNDERS, LANDSCAPE GARDENER, GERMANTOWN, PA.

THIS design represents a place of about one acre and a fourth in extent. Its square form excludes variety of outline, rendering its tasteful improvement more difficult. This place has been planted about five years, and is now beginning to develop the judiciousness of its arrangements. Many of the trees being of large size when transplanted, have now a decided effect. The arrangements possess considerable interest, on account of the great variety of trees, both fruit and ornamental, the agreeable yet diversified direction of the walks, the skilful introduction of evergreen hedges as screens, and the occasional breadth of lawn seen in vistas at particular points. The single specimens of choice ornamental trees, also form objects of much interest, placed, as they are, in conspicuous positions.

The front entrance-walk had to take its present outline to avoid cutting down an old tree; the original surface had also to be lowered at this point; a rounded mound was therefore formed at the base of the tree, creating at once a pleasing feature, and an apparent reason for the curve in the walk. A similar reason occasioned the abrupt bend in the walk at the southeast corner of the veranda, *b*. Both of these old trees are now covered with English ivy, and thus rendered of double interest. The grape arbors are placed to intercept the view on entering; the principal lawn view is, therefore, not seen until the best position is reached at the veranda step. The hedges are ingeniously introduced; they are of American arbor vitæ, the best of all plants for quick growing, evergreen hedges. The offices, *g*, are very completely hid from the walk leading to the stable; the yard is also separated by a thick hedge, which is carried round the dwarf pear-trees at *k*, to the rustic house, *e*. The view to the east, from the rustic summer-house, is pleasingly terminated by the pedestal and vase, *v*, set in a projecting mass of shrubbery; the triangular bed of choice low-growing shrubs in front, also assists in rendering the boundary line indistinct at this point. A similar feature is seen when looking up the walk, standing at a point immediately in front of the greenhouse. The position of the greenhouse and flower-garden might be objected to, abridging, as it does, the vegetable ground. Had the greenhouse been placed on the spot of ground occupied by the dwarf pears at *k*, and the flower garden in front of it, the vegetable ground would have been enlarged, and the whole arrangement more distinct and compact. Such an arrangement was at one time contemplated, but was set aside for the present one, first, because that part of the grounds was too much shaded by the house to admit of that freedom of flowering so necessary in a well-kept flower garden; but, chiefly, on account of the superior beauty of a well-kept lawn in winter, instead of the neglected appearance that flower gardens usually present at that season. In walking through the grounds, the

contrast between the vegetable and flower ground is scarcely observed—at all events, it does not appear intrusive. The transition from the lawn through the



rustic house to the greenhouse, is rendered appropriate by the masses of flowering shrubbery through which it is carried, and the row of fruit-trees on the left breaks the view in that direction. It will be observed that the trees in the vegetable ground are placed principally on the south side of the walks. This is a very judicious method, as it throws the shade of them on the walk, and being kept dwarf, they do not interfere with the growth of the vegetables. Other arrangements and details are further explained by the following :—

REFERENCES TO PLAN.

a. Mansion house. b. Veranda. c. Gardener's cottage. d. Carriage house and stable. e. Rustic summer-house, overrun with grapes, and the posts with ivy. f. Grape arbors. g. Offices. h. Stable yard. k. Dwarf pears. m. Raspberries. n. Strawberries. o. Greenhouse. p. Vegetable quarters. r. Arbor vitæ hedges. s. Flower garden. v v. Vases. x. Frames. y. Manure heap. 1. Norway firs. 2. European silver firs. 3. Araucaria

imbricata. 4. Purple beech. 5. *Gordonia pubescens*. 6. Double flowering horse-chestnut. 7. English hollies—vars. 8. Black ash. 9. English laurel bay. 10. Scarlet hawthorn. 11. *Cotoneaster macrophylla*. 12. *Aucuba Japonica*. 13. Tree box. 14. Irish yew. 15. Sugar maple. 16. *Magnolia obovata*. 17. *Magnolia Soulangeana*. 18. *Magnolia longifolia*. 19. *Magnolia purpurea*. 20. *Magnolia cordata*. 21. *Magnolia conspicua*. 22. *Magnolia macrophylla*. 23. *Magnolia tripetala*. 24. *Magnolia auriculata*. 25. *Magnolia grandiflora*. 26. *Magnolia glauca*. 27. Deodar cedar. 28. *Virgilea lutea*. 29. European larch. 30. Laburnum. 31. Flowering ash. 32. Hemlock spruce. 33. Cedar of Lebanon. 34. Weeping beech. 35. *Rhododendrons*. 36. *Kalmia latifolia*. 37. *Weigelia rosea*. 38. *Spiraea Reevesii*. 39. Mist bush. 40. White birch. 41. Sweet gum. 42. *Mespilus pyracantha*. 43. *Kolreuteria paniculata*. 44. *Salisburia adiantifolia*. 45. *Sophora Japonica pendula*. 46. *Halesia tetraptera*. 47. *Pinus Austriaca*. 48. *Pinus ponderosa*. 49. *Maclura aurantiaca*. 50. Black English mulberry. 51. *Pinus pinea*. 52. *Alnus glutinosa*. 53. Judas tree. 54. *Cryptomeria Japonica*. 55. *Yucca gloriosa*. 56. English yew. 57. *Cupressus funebris*. 58. *Mahonia aquifolia*. 59. *Prinos glabra*. 60. Siberian crab apple. 61. Filberts. 62. *Buonymus latifolia*—var. 63. Cherries.

In so small a space as the engraving gives us, it was impossible to embody all the references necessary to catalogue all the trees and plants collected in this garden, which presents a great variety of rare evergreens, and over 200 fruit-trees of the choicest kinds. The whole is an example of what may be accomplished on a small piece of ground, and is given for the encouragement of others.

DOINGS IN CALIFORNIA.

ALL accounts agree in ascribing a most genial horticultural climate to the settled portions of California. A correspondent, dating from San Jose, May 3, 1856, says:—

"Having made this valley my permanent place of residence, about eighteen months since I built me a small house, in order to surround myself with some of the comforts and pleasures of a home. As soon as it was finished, I began, for the first time in my life, to turn my attention, in a moderate way, to the cultivation of such fruits and flowers as I thought would add most to the enjoyment of myself and family. To my surprise, I found myself utterly ignorant of the first principles and knowledge necessary to guide me in such matters.

The first, and I can say the best books, were Downing's and Barry's, of those to which my attention was directed. With their aid, I did the best I could, the first year.

Recently, a friend loaned me some books to read, and among them, all the numbers of the Horticulturist for a year past.

Here was what I wanted—something that would combine good practical fruit-culture with that of plants, shrubs, and flowers. I immediately subscribed for it, through Mr. Daniels, your agent here, and set about getting others to do so; and, to induce them, have given them all the benefit of the club prices. With this, I send you a list of twenty-two names, and a check for the amount of their subscriptions. I shall increase the number of names, with more time. I have not got up the names for any premium, but rather because of the pleasure it afforded me to help along the good book, as much as my leisure permitted me. Among articles that are very rare, and hard to be obtained in this country, are Hyacinth bulbs, *Amarillis* do., *Rhododendron* seed, *Azalea*, *Cineraria*, *Geraniums*, choice kinds mixed, *Delphinium*, *Viola Odorata*, *Auricula*, *Anemone*, *Polyanthus*, *Ranunculus*, *Pansy*, &c.

We have a horticultural society in this place, and it is rapidly increasing in members and usefulness.

I am yours, very respectfully,
ELLIOT REED."

Mr. Reed is now one of our parish. The *California Farmer* gives a glowing description of San Jose and its gardens, which are irrigated from artesian wells, occasioning a moisture in the atmosphere, highly useful to vegetation. The Stockton Ranch, under the care of W. F. Kennedy, Esq., is called one of the most beautiful spots in the State; L. Prevost's is highly spoken of, and A. Delmas has one adjoining, of great interest. In the latter much attention is given to the grape, which seems perfectly at home in California. Mr. D. exhibited a vine in a pot, the growth of a graft brought from France the same year, and inserted upon a native stock, bearing 29 bunches.

The orchards in the neighborhood of San Jose are said to be very superior. Mr. John McMurtrie has one in high cultivation, of 3200 apple trees; he allows no other crop to grow with the trees, and employs a cultivator that moves the earth 12 inches deep; the soil is kept moving "by running the cultivator both ways." A frost sufficient to cut down the tender vegetation, in exposed situations, on the 27th of April, when strawberries were ripe.* The editor, however, says—"There is nothing like a visit to Smith's Strawberry Gardens, to make a person forget trouble."

In another number, the *Farmer* speaks of the Mission Orchard, at San Jose; and chronicles an apricot-tree whose crop, the present year, is worth \$200. "Among the large pear-trees, were several that did not produce fruit equal to others, or in so large quantities. These the proprietor caused to be headed down, and grafted with the choice varieties, such as the Bartlett, Seckel, St. Michael, &c., and the growth of these grafts is most remarkable; many of them will be in full bearing the present year, this being but the second year, and the grafts are, many of them, four, five, and six feet long, and very vigorous.

The editor copies, at full length, our "Day at Kew Garden," and says:—

"We give the sketch, by the editor of the *Horticulturist*, of his visit to the Kew Gardens, London; and to his fine description of this gorgeous place we are indebted for a great pleasure, for it brought back to our own minds again, the visit we paid to these wonderful specimens of Flora and Pomona. One exquisite plant, named by the sketcher, the *Anæctochilus setaceus*—the King Plant of the Cingalese, so highly spoken of—we remember with deep pleasure, for we brought one of these exquisite plants (a very small one, of only two leaves, and the only one for sale, for which we paid a guinea) from the Belgian Gardens across to London, thence to the steamer at Liverpool, by hand, and thence in our state-room to Boston. We remember how we nursed it, as the heart nurses a treasure; and we remember the sensations of joy experienced when we placed it in our home, in all its beauty and glory—that feeling can only be enjoyed *by a few*—they must *love a flower* as the loving heart loves its *own treasured flower*, and our own joy was twin to that experienced when such a heart has borne 'home' *that* treasure, and calls it *ALL ITS OWN*. We know few of our readers can hardly realize or conceive the beauty of such a place. We have often revelled in this and other 'homes of the beautiful,' and we look forward in faith when, upon these bright shores, the glorious science of horticulture, advancing with giant strides, shall rear a Temple of Fame that shall outshine even the Kew Gardens of London, the *Jardin des Plantes* of Paris, or the *Jardin des Belgic* at Ghent; for, when our legislators shall regard the true wealth of California, and labor to develop her real and true interests—then will she quickly be what God and nature designed—The Garden of the World."

* We chronicle ice around Philadelphia, on the 30th of May.

EDITORS TABLE.

THE HORTICULTURIST.—We have thrown together a few thoughts in the opening article of this month, which were called forth by the period of ten years which have elapsed since the commencement of this work. At the close of 1852, when it passed into the hands of Mr. Barry, its publisher, Luther Tucker, Esq., truly remarked:—

"The *Horticulturist* was a pioneer work, and has held its ground almost without competition. It has formed a taste for the scientific pursuit of horticulture in all its branches, and has exerted no inconsiderable influence in placing the arts of taste upon a new basis. The design of the journal has proved to be one of those happy thoughts which come only now and then, and lead one to wonder why it had not occurred before—a thought which, though new, strikes forcibly upon public sentiment, and soon becomes as common property, as though it never had an originator. The extent to which the editorials in the *Horticulturist* have been copied, and the high eulogiums that have been passed upon them, prove this to a demonstration. But the *Horticulturist* has done more than to inculcate the principles of taste, and teach the pleasures of rural life. It has been a scientific and practical work, and by exciting a generous rivalry among gardeners and amateur cultivators, has raised the standard of horticulture, and increased the number engaged in its pursuit. To be assured of this, one need only to refer to the reports of horticultural exhibitions in the early volumes, and contrast them with those of the present year. The competitors, the variety of fruits, flowers, and vegetables grown, and the products, have increased four-fold—and we are only new beginners. One needs a prophetic vision to say what the future of horticulture, in this country, is destined to be. Favored as we are by soil and climate, we may certainly anticipate brilliant results."

Our readers will pardon the space we have thus occupied, for they also feel not only a great interest in the topics treated of in the work, but retain an affection for its founder which will only terminate with their lives.

Gossip.—A London friend writes us, that "a party of French swindlers opened in the spring a bazaar of extraordinary seeds, near Regent Street, where great interest was excited by a display of colored drawings of large *scarlet and crimson pansies*, which, they declared, had gained the prizes at the great French exposition! They had, also, drawings of currants as large as grapes, and raspberries as big as plums, of which I was near obtaining plants to send you, when I was warned of the whole being a take in!" *Scarlet and red pansies!* would be a novelty, indeed.—Mr. Brandegee, Secretary of the Brooklyn Horticultural Society, confirms the report of the excellence of the April exhibition, given in our last, and adds, that there were six blooms from seedling camellias, of Mr. Becar's raising, all very good, and one magnificent, which he has called *Downing*. The stock of this plant will shortly be offered for sale, and it is the intention of the owner to apply the proceeds in some way to keep fresh the memory of that lover of flowers, the fruit of whose labors we are now enjoying. The *Azalea "Beauty of Europe,"* was exhibited for the first time in this country. This Society is one of the most spirited in America.—Flea powder is an article of considerable commerce in Persia, Caucasus, &c. It is made from the red pyrethrum, *Pyrethrum carneum*,

a bright green, tufted thing, with rose-colored flower heads, and leaves not unlike chamomile. It is largely cultivated in Southern Russia, where it is dried to the amount of five-and-thirty tons. How many bushels of fleas this will destroy is not stated. It also kills flies, gnats, and lice, and the maggots which breed in the wounds of domestic animals; for winged creatures, it is mixed with anything they like. It is figured in the 1,080th plate of the *Botanical Magazine*. The powder is called *Piré-oti*, and was very important to the English and French officers in the Turkish barracks. Possibly, this might prove a remedy for the curculio.—Boydell's traction steam-engine, an English invention, is pronounced "a great success." It ascends a declivity of one in three, *walks* on a common road, with a heavy load behind it, backs, advances, or stops, instantaneously, and its impress is scarcely perceptible where a horse's foot left a deep impression in a turnip field. This success is owing to the endless and wide railway attached to the circumference of the wheels, which gives a fulcrum for the lever, and a bearing sufficiently wide to carry a great weight on soft ground. We shall doubtless hear more of this soon.—In drying plants for preservation, each specimen should be placed between a sheet of brown or blotting-paper, and between each filled sheet several empty ones should be placed: for the first day or two, the pressure should be only just sufficient to prevent the leaves and flowers from shrivelling. When the papers are damp, the plants should be placed in dry ones, increasing the pressure after every shift till the specimens are perfectly dry.—The prizes to be given at the three London Crystal Palace Shows, this season, exceed, in the aggregate, eleven thousand dollars. The lists embrace a wide extent of subjects, and provision is made to encourage the humbler class of visitors.—Roses pegged down to the ground make superb beds. The Red Geant de Batailles, mixed with the White Aimée Vibert, forms one of the best mixtures. *Devoniensis* makes a noble bed on dry, warm soil, as does *Souvenir de Malmaison* and Mrs. Bosanquet.—A good friend writes us, "That was a capital article on the treatment of Evergreens in May. It is just the way I treated mine at my old country-seat in Europe, though a lighter soil made it less necessary to dig the radii, but a supply of ashes and rotten leaves was plentifully dug in. I have followed one root of a Scotch pine, for *thirty-eight feet*, till it came up under the highway, where, most probably, its spongioles were gathering all the benefit of passing cattle, horses, &c., to carry those materials to the general store. And as for pruning, this can be effected, by gradual processes, to a great extent, even to the pruning of Norway firs with *shears*, any time during the summer. These hedges look very thick and green, but are not so long lived as *Thuja* hedges, although stronger and impassable for cattle; but I prefer the *Thuja occidentalis* closely *shaved* till a hedge of eight or ten years is not over eight inches thick, and as well filled as one can wish."—A correspondent, in New Jersey, says: "I find my wife, as well as myself, *devours* the *Horticulturist*. Strange that it should do us so much good, who have only a plum-tree in the bricks, and a bed of horseradish! The latter we pull up every Sunday morning, *grate* a bit off the lower end, and replant it to grow again! so as to have a *taste* from our own garden. This you may set down as an evidence of the advantages of root-pruning, or of cutting off the tap root!" We hardly know whether this would prove anything except great economy, or, possibly, the advantage of saving *at the tap*, and drawing on the *spile* (spoil).—Another, in the editorial line, says: "Your gossip is capital; that for May was so spicy, that I ground it over into a splendid editorial *leader*!" What an excellent newspaper he must publish, and how profitable to be thus able to drive *tandem*!—Another correspondent says, he attempted to tell the story of Mr. Rivers' dwarf cherry-trees, only one foot high, bearing a quart of fruit, when a listener put him to the blush, by assuring him, a neighbor of his had a cherry-tree, in full bearing, which he carried about in his snuff-box! *If true*, these might be sent *under cover* by mail to Mr. Rivers, as a specimen of American improvement of *races*!—Philadelphia is the great centre of camellia propagation. We have nurseries which enumerate forty thousands of these beautiful plants,

and from here they spread to all parts of the Union, and even foreign parts.—Recent experiments, as stated in the *Mark Lane Express*, go to show, that common salt is a valuable addition to all applications of guano. It not only has a tendency to give strength and hardness to the straw (which guano weakens), but prevents the loss of ammonia, which is constantly going on even in a dry atmosphere. M. Barral, the French editor, says: "We left in the open air, in plates, during 15 days, equal weights of the pure guano and the guano previously mixed with salt. At the end of that time, we examined anew the amount of nitrogen, and found that the pure guano had lost 11.6 per cent. of its nitrogen, while that mixed with salt had only lost 5 per cent." The *Express* recommends the use of refuse salt from fish packers for this purpose, and any refuse salt would probably answer the purpose.—We have recently conversed with two gentlemen—both practical men, and of critical observation—who informed us that they have now fields in grass, and yielding good crops, laid down some five, six, and seven years ago, manuring them solely with guano, and receiving little or no manuring since.—A correspondent of the *London Times*, in commenting upon the progress of Irish agriculture, states that, during the past fourteen years, the value of farm stock, in Ireland, has increased from £22,000,000 to £35,000,000 sterling, and that the number of horned cattle has risen from 2,000,000 to 3,250,000, while the quality has correspondingly improved. Still, however, of the 20,000,000 of acres which Ireland comprises, only about one-fourth is under direct tillage, and fully one-third in pasture.—Nothing is in worse taste than an evergreen with its branches lopped off half way up. It is but half a tree. It resembles some wretched man, who has undergone a surgical operation that has taken off his arms up to his shoulders; it would be as correct to shave off the wavy silken tresses of a fair girl up to the crown of her head.—A travelled lady recently sent us some honey from Hymettus, with the true poetic flavor still distinguishable. The humble thyme plant, nourishing the Grecian apiaries, lives in the recollection of mankind, whilst the loftiest platanus on the Ohio, awakens no retrospective sentiment whatever. Thus, one of the sources of the pleasures of foreign travel, is denied to the American tourist.—*Pteridology*, some may be glad to be told, is the botany of ferns.—John Reeves, Esq., for a long series of years *Tea-taster* to the East India Company, and to whom England was greatly indebted for many of the most interesting Chinese plants, died in April last. The *Spirea Reevesiana*, and many other plants, derive their specific names from him. He was 82.—The *Impatiens Jerdonia*, figured in our May number, is easy of culture, so showy and princely in appearance, and continuing in bloom fully six months, is so invaluable, says the *Cottage Gardener*, that no amateur, be his collection ever so small, should be without this gem. It is easily propagated, in the same manner as the fuchsia.—To prevent chickens from fighting, tie an empty bag to the end of a long stick, and, when the birds are intent on their encounter, buffet them with the bag one after the other, and they will soon "give it up."—Fruit growers have racked their brains to discover new forms of training fruit-trees. Enough importance is not attached to those conditions, to which all the others ought to be subservient, that their branches should take that form which involves the least delay, the least care, and the least space, compatible with the greatest amount of fertility—that is, such a form as will give the greatest profit with the least outlay.—From the frequent allusions, in *Punch*, to gardening matters, we have a strong suspicion, that at one period of his life he must have been a cultivator. His last hit is, "A paper to make people smart. A gardener has succeeded in making paper out of common broom. We should say, it would be a capital paper for schoolmasters, satirical writers, and political antagonists, if the broom in question is a birch broom."—Glycerine is a liquid obtained in quantity in the manufacture of soap, candles, and stearic acid, but, till recently, was thrown away. It is now found to be one of the most efficacious agents for softening the skin and healing wounds; it preserves burns and wounds from the action of the air, and keeps the margin of the scar in a

state of suppleness ; it prevents the drying of cataplasms, is a valuable ingredient in pomatum, cerate, and soap, and gives perfumes of a highly cosmetic quality ; is useful in baths and lotions ; alimentary and other substances, coated with it, retain their freshness for a long time, and it improves salted meats ; and, in weaving and facing woven goods, it is said to excel any kind of mucilage or paste. It is even supposed, that the meat and vegetables exhibited at Paris, as keeping for an indefinite length of time, were prepared with glycerine ; it is also administered internally, as a medicine, and horse doctors have availed themselves of it with the happiest results.—There is now but one opinion regarding the irresistible remedy for the grape-vine disease ; sulphur, dusted copiously upon the parts affected as soon as it appears, the precaution being first taken to syringe the vines.—A monument is to be erected to Alexander Wilson, the most able writer upon North American ornithology, in his native place of Paisley, Scotland, during the present summer.—Rats are the annoyance of everybody. We gave a receipt, lately, of fried cork cut in small pieces, which they will eat and cannot digest. Waterton got rid of a houseful, by catching one and dipping his hinder parts in warm tar, and then turning him loose in his old run. The others, seeing his condition, and smelling *such* a rat, thought it prudent to take themselves off. On examination, it was found they had actually gnawed away the corner of a peculiarly hard brick which had obstructed their thoroughfare.—Were I asked, says the same remarkable naturalist, my opinion of a highly cultivated flower-garden, I should say it is the loveliest sight in rural nature ; and, moreover, that if it afforded me an opportunity of listening to the song of birds, I should pronounce it little short of absolute perfection. But, in general, the charming melody of birds is of too rare occurrence in the modern flower garden.—Cats, he says, amongst birds, are like the devil amongst us ; they go up and down, seeking whom they may devour. You must absolutely chase them away for good and all, otherwise there will be no place for your birds. A small quantity of arsenic, about as much as the point of your penknife will contain, rubbed into a bit of meat, either cooked or raw, will do their business effectually.—Gardeners are, in general, choice observers ; to them

"Not a tree,
A plant, a leaf, a blossom, but contains
A folio volume."

—Rational people now-a-days, will scarcely believe, that near the close of the last century, most men considered that the appearance of the horse was considerably improved by depriving the poor beast of one-half of its ears. Yet this was the case ; then the tail was cropped, and both fashions coming at the same time, it was no uncommon sight, each extremity presenting a distressing picture of mutilation and deformity. People were found who took horses to board, to have their ears properly clipped, and their tails docked. A sticking plaster was attached to the back, and the tail fastened to this canvas, to mount it in the air. About as rational, you will say, as some of our more modern *fashions*.—A correspondent says : "I have the ten volumes of the *Horticulturist* bound, and they could not be bought of me for money ; I consider them indispensable for reference on fruits or flowers, and they are all as valuable to me as they were the day I first received them."—Five agricultural warehouses, in Boston, sell, annually, two and a half millions of dollars' worth of agricultural tools.—Okra is proposed for making paper and rope, and, probably, it will answer a good purpose. It is readily stripped of its bark by threshing.—A NEW PROPERTY OF STEAM. Persons in the city, who are in the habit of receiving winter fruit, such as apples, &c., per railroad, complain frequently of the great reduction in quantity, which the fruit suffers *in transitu*. This, we presume, is attributable to the motion of the cars, or the whistle of the steam, although a suspicious friend suggests, that steam would hardly be able to force apples out of barrels, and cram them into the mouths of the brakemen.—A California letter, speaking of the extravagant spirit that prevails everywhere in that State, says : "Apples (of

large size, to be sure) were offered at fruit stands for sale, at four dollars and fifty cents apiece. The price is not more remarkable than that there are many persons indiscreet enough to purchase and eat them even at this rate. If this taste continues, who will say that the orchards of Oregon shall not come to be as valuable as the gold mines of California?—A reminiscence of the late winter, which it may be as well to put on record, partakes of the fun and exaggeration of our people, as follows: The *Syracuse* (N. Y.) *Journal* says, that the plank roads in that section are so drifted with snow, that the gate-keeper comes up through the scuttle in the roof of his house, and receives the toll by reaching up through a hole in the middle of the road. The additions made to the drifts by the recent fall have been so great, that all communication through the scuttle is cut off, and the toll is now paid to the gate-keeper by dropping the money down the chimney!—The *Detroit Advertiser* states, that they have exported to Chicago something over 800,000,000 feet of lumber, about 100,000,000 feet to Wisconsin, leaving only 100,000,000 for home consumption, which is a very low estimate. The whole value of the exports of lumber exceeds a million of dollars per annum.

MORE MATTER.—By consulting the economy of our type, we have at length succeeded, without reducing its size, in giving one-third more matter, in each number of the *Horticulturist*, than was the case six months ago. This addition is brought about by omitting the very thin *lead* between each line in the majority of our pages. The appearance is slightly affected, but the increased amount of reading is extremely enlarged. This has enabled us to insert most of the favors of our correspondents, opening the way for new contributions.

ANSWERS TO CORRESPONDENTS.—**FOOD FOR GRAPE-VINES.**—(W. B.) You have, on your own premises, excellent manure for your grape-vines. Make a basin round the roots, get the sweepings or manure of the poultry-yard, and keep it constantly diluted or dissolved in a barrel, at the rate of a peck to a barrel of water. Every week, on washing day, empty a pailful of the manure-water upon the roots of the vine, and, afterwards, as much "suds" as the vine will take up. The result will be a healthy vine, and fine crops, the fruit about twice the size of a neglected vine.

EVERGREENS.—(J. C. B.) Any well-decomposed compost will suit evergreens. Animal manure, especially in a fresh state, should never be employed.

HEDGES. If your arbor vitae hedge is not well supplied with branches near the ground, peg down, and bring into the earth, a few of the lowermost ones, and, with mulching, they will soon form new, and, as it were, a separate tree, which, by training, will cover all defects.

The mulching for evergreens should be fine chips, spent tan, sawdust, &c. These are among the very best manures for evergreens. If stones are employed for mulching, leaf mould should be occasionally put under them.

(W. B. B., South Carolina.) The evergreen oak, *Quercus ilex*, suitable to your climate, bears the influence of sea air perfectly, and would be a very profitable tree to plant as well as extremely ornamental—none more so. The *Laurustinus*, it will interest you to know, may also be included in your list of shrubs to plant within the influence of the sea; it succeeds well in such places, and may be even used at the South as a hedge plant, than which nothing could be more superb. The *Araucaria* and *Cedrus Deodara* will also suit you. Ah! if we only had some climates and situations that we know of at the South, we could make such a little earthly paradise as it would be hard to leave.

OLD SEEDS.—(E. R. H., New York.) We shall be glad to hear the results of your experiments, although we fear that you will destroy their vitality in the process you propose trying. Various agents have been employed, with a view to assist and hasten germination by

an increased supply of oxygen. Chlorine, in a diluted state, has been used with advantage. It may be obtained by mixing a tablespoonful of muriatic acid with a like proportion of black oxide of manganese, and a pint of water. The seeds are steeped for two or three hours, and then sown. A better way would be, to introduce a weak stream of chlorine gas into the soil, after the seeds are sown; this you may obtain by mixing the above ingredients in a retort, and applying a gentle heat.

Oxalic acid has also been used as a steep, and found to be very effective, removing the seeds as soon as vegetation commences.

Seeds moistened with water, and then rolled in newly slacked lime, are said to vegetate more readily, but experiments on this subject have not been much extended, and you have, therefore, an ample field for indulging, as you say, your "fancy for horticultural experiments." It may be well to remember, that seeds will not germinate unless in contact with atmospheric air. And we have the authority of Saussure, that light forms no impediment to this process, and that the development of the plant is more rapid than when the seeds vegetate in darkness. Light has been considered injurious, but this may proceed from the difficulty of keeping seeds uniformly moist when placed on the surface.

NEW AND VALUABLE TREES AND FRUITS.—One of the most remarkable catalogues ever published has just appeared in Leyden; it contains a priced list of the Japanese plants actually cultivated in the nursery of Siebold & Co., of that place. As is well known, the Dutch monopolize the intercourse of Europeans with Japan, the country most in climate like the British Isles, but resplendent with a vegetation infinitely richer and more varied. Camellia, Cephalotaxus, Cryptomeria, Aucuba, Chimonanthus, Clematis, and Pyrus Japonica, sufficiently indicate how beautiful and hardy is the Flora of Japan, to say nothing of Weigela, Forsythia, and the whole race of Moutans. Availing themselves of their commercial privileges, the Dutch have sedulously occupied themselves with the acquisition of everything most worthy of introduction to Europe, and the result is already a total number of 3 or 400 species and varieties offered for sale by the firm above mentioned. Of so curious an assemblage we are sure that a brief account will be interesting to all lovers of gardens. We shall, however, confine our remarks to what are represented to be hardy races.

In the first rank stand Conifers, among which we find four species of *Cephalotaxus*, *Juniperus japonica* and *procumbens*, *Pinus densiflora* and "the true" *P. Massoniana*, *Podocarpus Coraiana*, *Retinospora squarrosa*, and that famous *Thuja dolabrata*. The last has no price attached.

Among forest-trees are mentioned two Sycamores, *Acer japonicum* and *polymorphum*, the stock of which is held by Van Houtte, and *Ulmus Kejaki*, which, we are assured, furnishes the most valuable timber known in Japan.

Fruit-trees comprehend a very early Apricot called *Armeniaca Mume*, whose early rose-colored flowers are extremely ornamental, while the fruit, owing to the firmness of the flesh, is particularly well adapted for preserving. There is also a plant allied to *Pyrus japonica*, named *Chanomeles umbilicata*, thus described: "The fruit of this variety is perfumed like Violets, and, in the hands of the confectioner, surpasses in flavor all the fruit in our gardens." Mention, moreover, is made of a Japanese variety of Peach.

Small flowering trees and shrubs form a considerable part of the catalogue. The following appear to be the most remarkable: *Acacia Nemu*; a weeping Apricot named *Armeniaca pendula*, whose branches are described as falling almost perpendicularly; a new variety or two of *Aucuba japonica*; *Catalpa Kampferi*; a Judas tree, *Cercis chinensis*; *Corylopsis spicata*, a small bush resembling the Hazel; *Weigela hortensis*; *Indigofera Iwafusi*; a variety of *Kölreuteria japonica*; a new Privet; *Litsæa glauca*, a yellow-berried Laurel; *Malus Toringo floribunda*, and *Rinso*, three dwarf Apples, abundant flowerers, well adapted for forcing;

Rhus Oboeckii, "on whose leaves galls are formed of better quality than those of Aleppo;" *Ligustrum Iboti*, the true wax Privet, on which the wax insect (*Asiraca oerifera*) naturally feeds; two Roses, called Iwara and Camellia; *Spiraea rupestris*; *Tamarix chinensis*; and a great many sorts of Tree Pæony.

Climbing shrubs include *Tecoma Thunbergii*, the true *Bignonia grandiflora* of Thunberg; some new Wistarias; *Aristolochia Kämpferi*, and *Ampelopsis heterophylla*.

Finally, there is a considerable number of herbaceous plants, among which are included several new kinds of *Funkia* and *Lilium*, a Burdock called *Lappa edulis*, the roots of which are eaten like Scorzoneria; a couple of Irises; *Polygonatum japonicum*, whose roots are a substitute for Asparagus; a *Polygonum* called *Sieboldi*, recommended as a green crop for cattle food, as an excellent bee plant, &c. &c.; and the Chinese Yam, which M. Siebold calls *Dioscorea opposita*, and to the hardiness of which he fully testifies. He also offers seeds of the Soja japonica, the real plant from which the sauce called Soy is prepared.

Some of these novelties have been already introduced into England, and are offered for sale by E. G. Henderson. Who will be the first to advertise these interesting articles in America?

WASHINGTON CITY, D. C., June 3, 1856.

J. JAY SMITH, Esq. DEAR SIR: I have just sent to your address a box of Strawberries, a new French variety—Vicomtesse Hericart de Thury (one which I received under the name of Duchesse de Trévise proves to be the same). I have grown this strawberry two seasons, and have no hesitation in pronouncing it first rate in every respect—its foliage is large and firm, and not subject to scorch or burn under the fierce rays of our summer's sun. And through the last intense cold winter it passed unhurt without the slightest protection—here then are the two first and most essential qualities for a strawberry to possess, namely, hardiness and capability of withstanding brilliant sun. The fruit you will perceive is of good size, bright color, firm flesh, and exquisite flavor—in addition it is a most abundant bearer, swelling off a fine crop of fruit of uniform size.

I have now fruiting Omar Pacha, Nimrod, Comtesse de Marne, Princess Royal, with many other new French and English kinds.

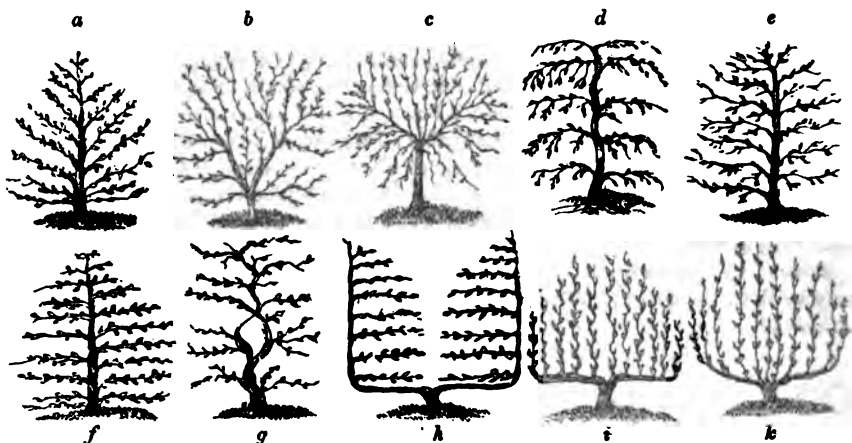
Respectfully yours,

JOHN SAUL.

[The box was received and the berries were in the finest condition. We pronounce the Vicomtesse a valuable fruit, with the qualities given above. It will be an excellent market variety, some of the berries having kept perfectly, after their journey, for five days, without the least decay.—Ed.]

TRAINING AND PRUNING.—Training and pruning are two important operations in horticulture, and closely connected together. In a previous page, we gave some examples of the former, and shall here present additional modes. The principles upon which both are founded vary according to the object in view. Training depends more or less on these facts—namely, that as the sap in all trees has a natural tendency to flow in an upward direction, it follows that the buds at the highest points above the roots will be the strongest and most disposed to produce leaves and shoots; and, therefore, when the formation of wood is desired, the nearer to the perpendicular a tree is trained the better; whereas, if the formation of blossom buds be the object in view, the very opposite direction should be given them. In fact, training is the power which governs the flow of sap in trees and plants. Hence, nurserymen train weakly growing young plants nearly in a vertical direction, while they place the strong growing kinds nearly horizontally, and even, in some cases, nearly pendulous. During the growing season they have an eye to the progress each is making, and elevate or depress the shoots according to circumstances.

The following figures show the leading methods of training wall and espalier trees, with the names by which they are designated. We insert them together, in this form, for reference.



a. The herring-bone fan. b. The irregular fan. c. The stellate fan. d. The drooping fan. e. The wavy fan. f. The horizontal. g. The horizontal, with screw-stem. h. The horizontal, with double stem. i. The vertical, with screw shoots. k. The vertical, with upright shoots.

Besides these, espaliers are trained horizontally, or in form of a table, the stem rising through the centre of the trellis, and the branches being trained in a radiating form. Sometimes the espalier is placed vertically, sometimes placed at one or other angle of elevation, either according to the latitude of the place, or the whim of the owner. All pruning and training must be considered subordinate to a proper selection of stock, and to operations on the roots. The true balancing of the power of the roots to that of the branches is most important.

In pruning, the following practical rules should be attended to. Commence on hardy trees soon after the gathering of the fruit and the fall of the leaves. Avoid frosty weather, or when it is approaching. In cutting, always draw the knife in an upward direction, and leave the wound smooth, to prevent the lodgement of water. In removing young wood, leave about an inch of the branch above the last bud; make the cut on the side opposite to it. But, in removing an old branch, cut it as close to the stem or branch left as possible, in order that the bark of the latter may cover the wound sooner. Use a sharp knife, a due share of consideration, and be not in too great a hurry, lest you remove the branch which ought to have been left. Cover the wound with a solution of shellac in alcohol, which you should have always at hand. For more particular directions in regard to the various kinds of vines and fruit-trees, refer to the several valuable American fruit books, such as Barry's, Elliot's, and Thomas's.

Budding Roses.—In roses, as in many other things, climate has a great influence in modifying our operations. For instance, budding can seldom be performed successfully with us till July, and, in many seasons, may be continued till October. The condition of the stock is a better rule to go by than any given period of time. Budding ought not to be done when the sap is too watery, which may be known by the bark being very thin and delicate, on being raised with the budding-knife. It should be quite hard and firm, at the same time separating readily and easily from the wood. The condition of the scions is also of import-

ance. Buds taken from shoots in active growth are not so good as those selected from branches that have partially exhausted themselves. To this end, stopping a strong growing shoot a few days before we intend to use it for budding, checks the circulation upwards, and throws more organizable matter into the buds. With us, also, it is not of importance to take out the wood after cutting out our bud; the best operators take as little as possible with the bark. A great cause of failure is in not taking out the bud with a straight, clean cut. The edges of the bark, after the bud is cut out, must not be split and cracked up as if a jackplane or shingle-shaver had been employed, or failure will be certain. Use a thin bladed knife, and keep its back well away from you, or downwards, while using it.

SEED AND FISH EXPERIMENTS.—Mr. Darwin, the eminent naturalist, says the *Gardeners' Chronicle*, is continuing his experiments on the vitality of seeds, with a view to arrive at data as to the distribution of plants. Among the points involved in this interesting inquiry are—the length of time in which a seed will live in the intestines of a bird or other animal, and the circumstances under which it may be dropped in a distant place, and germinate: also, how long will seeds retain their vitality when floating in the currents of the sea? The last question is now under investigation with seeds collected on the coast of Norway, and at the Azores, whither they had been drifted by the Gulf-Stream. Another branch of the inquiry relates to the distribution of species of fish. Naturalists want to know, for instance, whether the eggs of salmon will retain their vitality sufficiently long to produce fish, when carried through varying temperatures to places wide apart. In one way, the question has been answered in the affirmative by the piscicultural experiments to which we have more than once called attention. Dr. Davy has now solved it in another way. He took impregnated ova of the char, from a stream falling into Windermere, and subjected them to temperatures varying from 70° to 98°. The result showed, that the older the eggs the better they resisted the heat: the youngest died in the first experiments. Another mode was sending ova packed in wet wool, inclosed in a tin box, from Ambleside to Penzance, and back again—more than a thousand miles—and with like results. And such being the case with the very delicate char, there is good reason to believe of the more hardy salmon species, that the strength of vitality of the impregnated ovum, or its power of resisting agencies unfavorable to its life, gradually increases with age, and the progress of fetal development.

THE MACLURA.—A valued correspondent calls our attention to an article that has had some currency in the West, respecting a change of name for the Maclura. The writer, who is a large cultivator of this hedge plant, wishes it to be called "the Prairie Hedge Plant," to which our correspondent very properly objects; he says: "'Osage Orange' is beautiful, romantic, grateful, appropriate; all but universal; these kind of people are no better than the *Tame* plum, *Tame* gooseberries, and *Tame* grapemen! Why don't they call the Hickory the *Axe-Helve-Tree*? If one has a foolish whim that a horse ought to be called a *saddle*, let him do so himself quietly, but not disturb conventional Anglo-Saxondom, by printing silly arguments in support of his whim." We apprehend there is no great danger of his succeeding.

Michigan Transactions.—We have received a complete set of the *Michigan Agricultural Transactions* from J. C. Holmes, Esq., its estimable Secretary, and another copy for the Philadelphia Library, an institution with which we have long been, and still are, connected, and to which we shall be happy to forward pamphlets, books, &c., on this subject, or any other, that are worthy of preservation. Mr. Holmes has our thanks, and he will be officially informed of the estimation felt for his gift by the proper officer of the Library.

UGENIA UGNI.—We regret to learn, from Mr. Buist, that the *Ugenia Ugni*, a fruit bearing shrub, mentioned several times lately in this work, and recommended lately by Mr. Sargent, is not likely to be hardy here. It will require either to be taken up every winter, or kept as a greenhouse plant in this latitude. At the South, it will prove of great value.

THE PAMPAS GRASS.—Several paragraphs in this journal have lately alluded to the Pampas Grass as highly ornamental. A number of questions regarding it have reached us, to which we reply, that it is scarcely known among us yet, though two or three friends have it coming forward. The following description is from the *London Gardeners' Chronicle*:—

"One of the most interesting plants, now in flower at Turnham Green Gardens, is the Pampas Grass of Brasil (*Cyperium argenteum*). This plant has twelve flower stems, each some eight feet long, about the thickness of the thumb, and supported by an erect panicle of inflorescence at least eighteen inches in length, which, beneath the bright sunshine, looks a beautiful, light-colored feather, spangled with silver; the panicle is in the form of the beautiful *Arundo phragmites*. The leaves, which are some seven or eight feet long, with a hard, flinty skin, grow in tussocks, which, in situations at all favorable, soon acquire a large size; when in flower, certainly few plants are more striking or magnificent in appearance than this gigantic grass, which, being perfectly hardy, will be found to be a great acquisition to ornamental grounds."

BEES.—Here is something about bees which quite abates our early prejudice in favor of those always instanced little creatures that "improve each shining hour."

"Many curious instances have been noticed by naturalists, illustrative of the instinct which directs various animals to proportion the amount and nature of their labor to the exigencies of particular cases. Bees transported from Europe to Bermuda, omitted, after the experience of one season, to make the annual provision for the winter; and, laying aside their habits of industry with the necessity of exertion, became idlers and sources of vexation to the inhabitants."

DR. WARD's article on the Pear will appear in our next.

PRUNING THE PEAR-TREE.—We recommend to all practical men the article by "B., New Jersey," in our present issue, on pruning the Pear-tree. It contains the essence of what it is desirable to know on the subject, in a condensed form, and we are mistaken, if there will not be found in it much that many practical men have yet to learn.

We have received the rules of the *British Pomological Society*, established in London, in 1854, of which Sir Joseph Paxton is President. This is the first in Great Britain, but we hear nothing of its reports. Will one of our English correspondents send them as they appear?

The Transactions of the Northwestern Fruit Growers' Association, held at Burlington, Iowa, last September, have at length reached our table. It is the fourth session; the discussions are of great interest; practical men have given their experience; facts are settled, synonyms determined; the pamphlet, in short, is necessary to the Western fruit grower.

Plum culture was first discussed, and, of course, our acquaintance "the little Turk," received complimentary attention. Mr. Barry said the plan of paving under trees, gave him the idea of beating the earth hard; a boy, at the same time, jarred the trees, and picked up the punctured plums; and thus the larvæ and insects are destroyed, not only protecting the present crop, but lessening the next year's crop of insects. He thinks the

idea that we shall ever find a remedy without labor is fallacious, and he admitted that Matthews' remedy, whatever it may be, will require as much or more labor than the above. In short, this pest is left just where he was—on the plums. Dr. Hull said he had invented a labor-saving machine, not heavier than a wheelbarrow, to jar off the punctured fruit, which falls into canvas, with the insects. He said the curculio attacked his peaches.

It was agreed to recommend the free growing varieties of the American Wild Plum (*Prunus Americana*) as the most suitable stock on which to work the plum.

Fire-blight; Mr. Fahnestock said, where they cut off the affected spur, they saved the tree, but, if that remained, the disease spread over the trees, and destroyed them clear to the body. Mr. Barry said this virulent form of blight makes its appearance in warm, humid atmosphere, and prompt amputation saves the trees; some varieties are more liable to it. The Buffum Pear is exempt from this disease. This Pear is figured the present month.

Mr. Barry's address was an excellent and practical one. He thought pomology was to make its greatest triumphs in the West. "Who ever saw, before, such apples or such pears as are displayed here? I never have, in all my travels, either at home or abroad. * * * Twenty years ago, two or three nurseries around New York, and an equal number in Massachusetts, supplied the Union. Now, nurseries may be counted by the thousand, even to the shores of the Pacific. * * * Our pomological literature has been created, one may say, within the last ten or fifteen years. * * * Robert Manning, of Salem, Mass., was one of the first who made systematic attempts at a pomological garden; this was in 1823, and, in 1838, he enumerated 160 varieties of apples, 620 of pears, &c., in all, 922 varieties; in 1842, the number was estimated at 2,000 varieties." Mr. Barry made no allusion to Wm. Cox, who commenced long before. * * * "Mr. Wilder, at the present time, enumerates 1,000 varieties." * * * Mr. J. S. Cabot, Samuel Walker, B. N. French, Hovey & Co., Wm. Kenrick, &c., received honorable mention, as did the late Mr. Prince, Charles Downing, A. Saul, A. J. Downing, David Thomas, and his son; Thorp, Smith, Hanchett & Co., F. R. Elliott, A. H. Ernst, &c. &c. Some highly valuable portions of Mr. B.'s address we shall print hereafter.

The subjects of taxation of nurseries, and of tree peddlers, attracted considerable attention, and were discussed in a business-like way. Root grafting, the cultivation of the cherry, the strawberry, &c., were discussed, but we do not find any recommendation from the association of any particular kinds.

Of apples, however, the early Joe, Dutchess of Oldenburg, Mother, Hubbardston, Nonsuch, and the Spice Sweet, were continued for further trial.

Peck's Pleasant and Primate were recommended for moderate cultivation; the Willow Twig for extensive cultivation; the Newtown Pippin for cultivation in particular localities.

The Bark louse was discussed at some length, and Mr. A. G. Hanford has communicated the remedy he furnished the description of in the *Horticulturist*, viz: a mixture of tar and oil, put on in the form of paint. Mr. Dunlap was of opinion that the height of this difficulty was now reached, and that the insect would become less troublesome. He uses one pound of potash in seven gallons of water, as a wash, with success.

The Report is satisfactory, and will be, we trust, largely distributed.

STOPPING SUMMER GROWTHS.—You would hardly suppose that there is a man, woman, or child, in all the world, who could not learn the art of "stopping" the shoots of plants and trees at one lesson—pinch out the top of the shoot with the forefinger and thumb, and the thing is done in a moment. So it is, sure enough; but there is no *art* in that way of doing it at all; and may be a great deal of mischief in it, and there often is.

I once lived with a gentleman who never went about in the country without his walking-stick, which had a "spud" on the bottom end, with which he was constantly routing out

docks, thistles, and other noxious weeds, in and round the fields and plantations, wherever he went; also the plantains and daisies on the lawn, and such weeds as he could see in the beds or borders; and, to the last, I could never convince him that he often did more harm than good by so doing. It was his way, and he could no more help it than I could. A Groundsel, or a Shepherd's Purse, or a Dandelion, and many more such common weeds, take several days after the flowers open before they seed, or do any more harm than is done already; meantime, some one passes by that way who pulls out the weed, and carries it out of the way at once, or sends some one else to weed that bed or border; but the "governor" gets there before him, with the everlasting spud and the ruling passion, twists down the Groundsel with one turn of the spud, cuts the neck of the dandelion in two, or makes a hole in the grass, big enough to play marbles into, trying to root out a plantain or a daisy—all of which is doing more harm than good. The Groundsel has sap enough in it to ripen its seeds while it lies unperceived till the mischief is done, till a fresh crop of seedlings spring up. So the bottom half of the broken neck of the dandelion sends up four heads for the lost one, and there are thus four chances that the mischief will run much further than it would were it not for the spud. In short, I would as soon let a Welsh goat into the shrubbery, as let an amateur spudder into any part of my own garden.

There are other people, and most of them are nice, amiable people, who never do any real harm in a garden, save one kind of mischief, and that they do unknowingly to themselves. It is *their* way of "stopping." If *they* stop a thing, they think it is stopped for good, and there is an end of it; but the end is no better than from spudding; they pull up the weed, and, may be, shake the soil from the roots; but they throw it down in the same place, and if it is of the seedling class, a crop of seeds is sown there before the gardener sees that a dead or a dying weed was there at all; whereas, if this weed had been left standing, he would have seen it the next time he passed that way; and he would "stop" it according to the rules of his own art; he would have it up, root and branch, and carried off at once; and all those who stop weeds on any other plan do, or may do, more harm than good.

There are other masters, and some mistresses, too, who read a great deal about gardening without ever *studying* one single word on the subject. You would take them to be very clever on gardening from their conversation, but if you saw their "stopping," you would just think as I do, and I think a great deal, at times, about such things. The meaning of a sentence of much import may be lost by putting the comma, the smallest "stop," in the wrong place; and it is the same if you apply the smallest stopping to plants and trees; stopping a shoot at the wrong time, or in the wrong place, may spoil the shape of a specimen, the flowering of the best geranium, the fruiting or the future crop of a vine or a peach, or any one plant you may think of; and yet these superficial people think there is no art in stopping, beyond the mere process of doing the act, from the weeding of the walks, up to the regulation of the branches of the Mangosteen itself. You have only to put *their* stopper on, and all is right; and must be right, for they have read of it, and knew it years ago!—*Cottage Gardener.*

OLDEN MODE OF HEATING.—That quaint old writer, John Evelyn, in his *Gardeners' Calendar* for November, gives the following directions for heating a greenhouse; the date is 1676, about the period of the settlement of Pennsylvania: "If the season prove exceeding piercing (which you may know by the freezing of a dish of water, or moistened cloth, set for that purpose in your greenhouse), kindle some charcoals, and when they have done smoking, put them in a hole sunk a little into the floor, about the middle of it. This is the safest stove." The cloth for a thermometer! The "charcoals" would have been a poor protection last winter!

AGRICULTURAL.—*Washington, April 19, 1856.*—Much activity exists in the agricultural branch of the Patent Office, under the direction of Mr. J. D. Brown. A number of gentlemen, in various parts of the country, are engaged in making experiments in agricultural chemistry, and several interesting reports have just been received.

One, from Dr. Charles T. Jackson, of Boston, who has analyzed the corn cob, acquaints the Bureau that it contains four and a half parts of nutritive matter, consisting of gum, starch, and dextrine.

Another, from the same gentleman, who has made geological excursions through the States of North Carolina, South Carolina, and Georgia, furnishes the result of chemical researches on the seed of the cotton plant. He says that cotton seed may be profitably employed in the production of a rich, fat oil, and that the woolly fibre adhering to the hulls may be economized in the manufacture of paper, while the substance of the seeds, or their "meats," after having the oil extracted, may be employed for feeding animals, and also as an excellent fertilizer.

The following is the analysis of the oil cake, made from the cotton seed: Carbon, 37,740; oxygen, 39,663; nitrogen, 7,763; hydrogen, 5,869; salts (inorganic), 8,960; total, 99,935.

On separating the various salts, and reducing them to their ratios for one hundred grains of the oil cake, the following results were ascertained: Alkaline salts, soluble in water, 0.13; phosphate of lime, 3.04; potash, 0.46; soda, 0.53; phosphoric acid, with traces of sulphuric acid and chlorine, 0.80; silica and oxides of iron and manganese, 0.18; loss, 0.35. Total, 5.50.

The analysis of cotton seed justifies and explains the use made of them by the Southern planters in preparing the soil with the rotted seeds, as a special manure for Indian corn, which draws so largely on the oil for phosphates.

The Bureau has been sending out small tubers of the Chinese yam, which was recently introduced into France from the North of China, and bids fair to serve as a substitute for the potato.

—
ARIFFE, BUREAU Co., ILL., March 9, 1856.

DEAR SIR: Our winter has been the most severe that has been known lately. Peach-trees are all dead, old and young; cherries also, all the Heart and Bigarreau varieties. Pears, also, are nearly all dead; few varieties, probably, will leaf out; but whether they will live through the summer, time will only tell. Plums are also badly used. Roses are killed to the ground—all the ever-blooming sorts that I have examined. Apples, I think, are not injured. I have two Napoleon Bigarreau trees, six years old, budded upon the Morello stock, four feet up from the ground; they are unharmed. Also, one other variety, name not known, budded up nearly as high, unharmed. My loss in trees, &c., winter killed, about 2,000 dollars; rather hard luck for a new beginner, but I am not the only one; it is universal all through this section of country.

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CITIZENS NEW TO THE COUNTRY.—**DEAR MR. EDITOR:** I live in an old village which has suddenly become the vogue. A perfect rush of city merchants, and others, has destroyed all my old nooks and solitary rambling grounds. The springs of water have been dammed into fish-ponds, and my trout stream made to wander through tame gardens. Gardens, did I say! Why, some that are so-called are a curiosity for a museum. I say nothing of the silver maples that do duty for ornament in long, straight rows, nor of the hideous specimens of evergreens which disfigure, rather than ornament, my poor old town. It is the kitchen gardening that I object to; the new "vegetables" that are introduced, and the rush that is made for "good gardeners." Mine has been induced to leave me, after ten years of faithful service, because he was offered ten dollars a month more than was ever paid in the good

old times. Well, if people can afford to pay so high for their eatables, so be it; some of us must raise our own, or go without our truck. But I want to know what business anybody has to "live in the country" who has no kind of knowledge of country things?

My illustrations must take the conversational strain; the following lucid talk actually occurred in the parlor of one of my new neighbors, last evening, and the provoking part of it was, the interlocutors never appealed to me for information; *me*, who had lived all my life in the country! I was voted an ignoramus, because I knew nothing of silks or Irish linens. But, to our evening conversation.

First Lady. "Oh! Mrs. Firkin, I'm going to keep bees!"

Second Lady. "Are you, indeed! I should like to make honey, myself; but where do you get bees?"

First Lady. "Why, just as you get birds. The carpenter was here to-day, making wren boxes, and I got him to make me a pair of bee-hives, and a shelf just under the bay-window. Won't it be nice?"

Second Lady. "Do the bees come and take possession like the bluebirds and wrens?"

First Lady. "I expect so; don't *you* know?"

Husband. "My dear wife! you have made a great mistake. Bees *swarm*, and have to be carefully hived. You might wait a century for a swarm to take possession. You *ought not*, my love, to attempt things you don't understand. This is the fourth or fifth time you have—"

First Lady. "Do be quiet! I don't believe you know anything about it!"

Third Lady. "Oh! how charming it is to have a good, large garden. Our man has been planting Lima beans, and has scoured the whole country for poles! I do believe the fellow has been away a whole week getting poles!"

Note.—I had been looking into this "fellow's" gardening, and know it to be a fact, that he has staked morning glories that came up all over the ground, and, being vines, he thought they were Lima beans! Most of the time he was away for the poles, he was loitering at the tavern.

Fourth Lady. "Well, I declare, I'm almost sick of this gardening. Last year, we ordered a large quantity of early beets cultivated, and, when they came up, they were all sun-flowers! Our man was cheated into buying six pounds of sunflower seeds, for beets!"

Fourth Lady's Husband. "You forget, my dear, that *you* brought them home, after a day's shopping, yourself; and—"

Fifth Lady. "I should be well contented to live here all the year round, for the sake of having a cow. But, do you know, the calf takes all the milk!"

First Lady. "Oh dear! Why, how old is the calf?"

Fifth Lady. "Only eight months! We never get a drop of milk."

Guffaw from poor me! "Oh! oh!! oh!!!" and I am voted A GREAT BORE.

THE THREE CROP SYSTEM.—The *Boston Transcript* gives so intelligible an account of Mr. Simpson's mode of obtaining three crops of grapes in two years, that we copy it for the information of our readers.

"Mr. Simpson states, as the foundation of his theory, the following principles:—

1. To perfectly ripen the wood, leaf, and bud.
2. To secure a thorough resting of the vine, by withholding moisture from the roots; and
3. To keep up a brisk root action throughout the growth of the crop.

By imitating the dry season of tropical countries, he effects the ripening of the wood, and the fall of the leaves of the vines that have produced his early spring crop, and the vines are then laid down to rest until the period of three or four months, the season of rest shall have passed, when they are again set up, and encouraged to bearing.

It is obvious that his vines that bore his late crop, say in September, ripen their fruit, and their wood, and let fall their leaves through the influence of autumnal cold.

His chief improvement appears to be in applying drought as a substitute for the cold of winter, and in managing to have his vines in bearing every eight months, so as to produce three crops of grapes in two years. This gain he effects without any injury to his vines, as sufficient practical trials have already proved.

With regard to the method of cultivation of these vines; ten days before starting the buds, the earth is warmed, and in three weeks the vines are ready to be set up. They were started on the 15th of December, 1854, and bloomed in five weeks. The first swell of grapes was four weeks after blooming; four weeks later, the seeds are hardened, and, during this most important vital process of the plant, there seems to be a suspension of growth of the juicy portion of the fruit. In four weeks more the grapes ripen. In all, the time is about sixteen weeks. On the 20th inst., the early grapes—'Macready's Early White'—had been ripe for some time, and the Black Hamburgh, Chasselas, and other late varieties, were nearly ripe—some of the bunches being quite perfect and of high flavor.

The vines, now loaded with ripe grapes, will be laid down to rest, and not be again awakened until next August, when they will be set up for their next crop, which will be ripe in January.

They will next be started in April, and will ripen in September following, and then again they will be started in December. Thus the three crops will be produced in twenty-four months, or eight months for each crop."

REMEDY FOR THE APPLE BARK LOUSE.—The best remedy for this insect is, probably, the following: Boil leaf tobacco in strong lye until it is reduced to a pulp, and mix it with soft soap (made cold—not the jelly-like boiled soap), to make the mass about the consistence of thin paint, which will not be washed from the tree by the first rain. The fibres of the tobacco cause it to remain for some time. First trim the trees well, and apply the preparation, with a paint-brush, to every twig and limb, before the buds have much swelled in the spring. One hundred and fifty large trees can be gone thoroughly over, by two men, in a fortnight. These insects from neighboring yards will not attack trees thus treated.

BRIDGEWATER, March 24, 1856.

THE RHODE ISLAND GREENING.—MR. EDITOR: The Rhode Island Greening was a famous apple here twenty years ago. Is this becoming an extinct variety? Of late years, the fruit is abundant, but it does not set well, and, by the time the apples are as large as a walnut, the tree is bare; or, perhaps, a peck where there should be a barrel, is found in October; and so for ten or fifteen years it has been. Trees ten and fifteen years old, succeed no better than those of forty and fifty years. To make our greening-trees bear, must we change the soil, or manure, or add manufactured manure? Must we seek out a new stock, on the theory that the old Rhode Island Greening stock has run out? Or is the cause of this defect to be sought for in the atmosphere? is it in the climate? I trust that some one of your readers will give us the result of his experience with this formerly noble fruit.

A SUBSCRIBER.

HOMEMADE WINE.—Dr. Thompson, of Wilmington, Del., has furnished the editor of the *American Farmer* with the following receipt for making domestic champagne, pronounced equal to any imported:—

DR. THOMPSON'S RECIPE FOR MAKING THE DOMESTIC CATAWBA AND ISABELLA WINE.—The Catawba is, I think, much the best. Select the ripest and cleanest Catawba grapes. Mash and squeeze them up thoroughly—then strain the liquor through a fine sieve—then through

funnel. To 2 to 2½ gallons of this juice, add 3 gallons of water, and from 15 to 20 lbs. of pulverized white sugar—these proportions to a five-gallon demijohn is, I think, the best mode of making it—always having enough left to keep filling up the vent—leaving the cork out until the fermentation is done—then decant, and put up in champagne bottles, and you have the wine you drank here. The very finest and dryest grapes should be selected.

The first number, for May, of the *South Carolina Agriculturist*, edited by A. G. Sumner, and published by the State Agricultural Society of S. C., has been received, and speaks well for an increased interest in the matter in that State. It "promises well," and we shall be pleased to welcome it to our table. This number has good horticultural articles in it.

SEEDLINGS OF PENNSYLVANIA.—MR. J. JAY SMITH: Why is it that we Pennsylvanians do not improve and discriminate our seedling fruits? We certainly have some amongst the best apples and pears in the country; should any fine fruit come under the notice of our friend, Dr. Brincklé, or some few others, it will be brought into notice. We have many good seedling apples and pears that are hardly known out of the locality where they originated. I have often thought why it was so, and I have even gone so far as to introduce the subject among our horticulturists, particularly at agricultural and horticultural fairs, but that would be about the last of it. If I offered a half dozen of the best seedlings at any of our exhibitions, I heard no more of them. It is not the first time my humble self has tried to draw the attention of committees, but could not get a passing notice. Now, you know, Mr. Editor, that is rather discouraging to a new hand; but should, by accident, some of our seedlings get out of the county or State where they were originated, some other State will generally lay claim to it; for instance, the Smokehouse Apple is set down, by Mr. Elliott's American Fruit-growers' Guide, as a native of the State of Delaware; the Gate or Waxen Apple is said, by Downing's and Elliott's, to be a native of Virginia; but, as it happens, there are persons yet living who know something about those apples. The Gate Apple is a seedling of Paradise, Lancaster County; the seed of said apple was planted by Mrs. Beam, more than 100 years ago, her family being amongst the first settlers of this county; the apple went, for many years, by the name of Mother Beam Apple. In the course of time, there was a gate planted close to the Apple-tree, and, afterwards, it assumed the name of Gate Apple.

Mr. Niesby married into the family of the Beams—was one amongst the first settlers of Ohio; he took scions, from this same tree, out to Ohio with him, and, in course of time, the Apple was extensively cultivated in the County of Belmont, Ohio. I suppose some one thought proper to call it Belmont, which name it bears in many localities.

The Smokehouse Apple, set down to the credit of little Delaware, I now will bring home to old Lancaster County; the original tree I recollect very well when in its glory, at Mrs. Gibbon's smokehouse, near Mill Creek; from the appearance when standing, I should suppose it to have been at least 80 years old, but it is now gone. We have many trees, now, from said original, in this neighborhood, from 40 to 50 years old, and they are amongst the best kitchen or bake apples we have, coming in use in August, and lasting till March. If quite green, they make a good pie.

A PENNSYLVANIAN.

SPREADING of a late article on hedges, a valued correspondent, who knows all about it, says: "Ah! if people could be prevailed on to pay the same attention to their fruit-trees! They, too, are highly ornamental, and nothing can be more beautiful than a fine garden of large pyramids, as was, and still is, the garden of my late friend, Esperen. I often spent happy moments, in the morning, at the window of my bed-room, when there, overlooking

that fine spot, that masterly piece of human skill and perseverance, and can tell you that it was a delicious sight, either in their May dress, in their summer attire, or loaded with their rich crops of luscious treasures. Intermix these with evergreens, so as to have, as Boileau says, something to cheer us up, and to break the monotony of the dismal snow-carpeting, and you will find it a great benefit to the mind depressed by the gloom of a wintry day." Another writes as follows:—

MR. EDITOR: I was much pleased with your leader in the May number, respecting "Evergreens, and other matters." What you said respecting *feeding trees* interested me, for I have tried the same thing for two years past, but without your success. I have dug trenches at what seemed to be the extremities of the roots of many of my trees, and filled the holes with rich soil, but the trees have not as yet shown any decided improvement. While the digging was going on about the trees fed last fall, I examined very carefully some of the poor soil which was thrown out from the trenches, and, to my surprise, found it full of minute fibres, the little roots of the tree, which the careless eye could not see, and which offered no resistance to the gardener's spade. I concluded that my trees were injured as much by the digging as they were benefited by the feeding. And as the circles I had dug around the trees—twelve feet in diameter—had evidently encroached upon the roots, I concluded that I must either plough up my grounds, and thoroughly manure the whole, or else let the trees take their chance undisturbed. What think you? INQUIRER.

This was careless; you should not examine the earth *after* it is dug out, but expend a little time in approaching the roots, examining for the first rootlets as you go.—ED.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The stated meeting of this Society was held at Concert Hall, on Tuesday evening, May 20, 1886. E. W. Keyser, Vice-President, in the chair. The following awards were made by the Committee on Plants and Flowers:—

Pelargoniums—six plants—for the second best to Thos. Robertson, gr. to B. A. Fahnestock. Specimen *Pelargonium*—for the best to Chas. Sutherland, gr. to Jno. Anspach. Tulips, cut flowers, twelve varieties—for the best to Geo. W. Earl; for the second best to Theodore Walter. Collection of twelve plants—for the best to Thos. Robertson; for the second best to John Pollock, gr. to Jas. Dundas. Specimen plant—for the best to the same; for the second best to Robert Bult. *Baskets*—for the best to John J. Habermehl, gr. to J. Lambert. *Bouquets*—for the best pair to the same.

Special Premiums.—Five dollars to Robert Bult, for a very fine collection of seedling *Calceolarias*; two dollars to John Pollock; two dollars to Wm. Armstrong, gr. to Alex. Brown, for a display of *Verbenas*. *New Plants*—shown for the first time; a premium of three dollars to John Pollock, for *Fuchsias*, Queen Victoria, Prince Albert, and Mrs. Story; and one dollar to Mark Hill, gr. to M. W. Baldwin, for *Veronica* hybrids.

By the Committee on Fruits. *Special Premiums*—three dollars to Mark Hill, for seven varieties of Grapes; and two dollars to Wm. Grassie, gr. to Jno. Tucker, for three bunches of White Frontignac Grapes.

By the Committee on Vegetables. *Rhubarb*, twelve stalks—for the best to Saml. Cooper; for the second best to A. L. Felten. Cucumbers—for the best to Chas. Sutherland, gr. to Jno. Anspach. Asparagus, twenty-four stalks—for the best to James Jones, gr. at Girard College. Mushrooms—for the best to James Thomas, gr. to J. D. Whetham. Display by a market gardener—for the best to A. L. Felten. And a special premium of two dollars, for six very fine heads of cauliflower, to J. J. Habermehl.

One gentleman elected a member.

OBJECTS EXHIBITED.—*Plants* from B. A. Fahnestock's—*Pelargonium* var. Tom Thumb, *Allamanda nerifolia*, *Fuchsia Psyche*, F. Banks of Glory, *Pentas carnea*, *Cuphea platycentra*, *Azalea Mackenzie*, A. variegata, *Cyrtolopia longiflora*, *Franciscea angustifolia*, *Rhynchospermum jasminoides*, *Erica ventricosa* minor. Specimen Plant—*Medinilla magnifica*, and a collection of *Pelargoniums*.

From James Dundas's.—*Boronia alata*, *Cuphea platycentra*, *Conradenia rosea*, *Chirita mornii*, *Mahernia hecta*, *Begonia semperflorens*, *Fuchsia speciosa*, *Nurembergia gracilis*, *Cineraria King*, *Franciscea hydrangroformis*, *Petunia Hermosa*, *Columnnea Scheidiana*. Specimen—*Medinilla magnifica*. *New*—*Fuchsia* Mrs. Story, Prince Albert, and Queen Victoria. *Orchids*—*Acanthophippium bicolor*, *Cattleya mossiae*, and *Oncidium subulatum*.

From Robert Bult. *New*—*Zychia rotundifolia*. Specimen—*Rhynchospermum jasminoides*, eight seedling *Calceolarias*, six seedling *Cinerarias* and *Epiphyllum crenatum*.

From John Anspach's—*Pelargonium*, Madame Rosetta, *Azalea indio variegata*, *Leuchonathia formosa*, *Begonia Drajii*, *Ixora coccinea*, and *Rosekalanthus speciosus*.

From J. D. Whetham's.—Six *Cinerarias*.

From Alex. Brown's.—Six *Verbenas*.

From M. W. Baldwin's.—*Tetratheca verticillata*. *New*—*Veronica* hybrids, and *Fuchsia magnifica*. Cut Tulip flowers, by Geo. W. Earl, Theo. Walter, and J. J. Jennings.

Baskets, and a pair of bouquets, from John Lambert's.

Fruit.—From M. W. Baldwin's—Grapes: Black Hamburg, White Muscat, Cochin China, and Isabella.

From John Tucker's.—White Frontignac Grapes.

Vegetables.—By A. L. Felten.—A fine collection.

From John Anspach's.—Cucumbers.

By Saml. Cooper.—Rhubarb.

By James Jones.—Asparagus.

From J. D. Whetham's.—Mushrooms.

By J. J. Habermehl.—Cauliflowers.

By Jno. McLaughlin.—Rhubarb.

THE HORTICULTURAL SOCIETY OF MARYLAND held its third monthly exhibition at the Hall of the Maryland Institute, on the 15th of May. The display of flowers and plants was very fine, as also were the vegetables for the season. More visitors were in attendance than at any previous monthly exhibition, and they seemed to enjoy the beauties of nature with more than common delight. Dr. Edmundson exhibited some fine plants, in bloom, and excellent vegetables.

Mr. Edward Kurtz, some excellent Pelargoniums, Azaleas, and a sprout of the Laterals Azalea, measuring three feet in diameter, half of head white, which, for beauty, was a complete gem; he also had a collection of Tulips.

Wm. C. Wilson, Calceolarias, Cinerarias, and Verbenas, &c., and a fine blue seedling Verbena, of excellent habit.

James Pentland, a collection of Calceolarias, Tulips, and Tree Peony.

Robert Halliday, a basket of flowers, a bouquet, and a collection of Verbenas, Pelargoniums, Roses, &c.

Thos. Fairley, six fine Pelargoniums and Verbenas; also, a fine Aqualgia, which deserves credit for the manner it was "got up" for exhibition.

Wm. P. Worthington, some fine Victoria Rhubarb.

Jacob Standemeyer, gr. to Mr. Geo. Brown, four splendid Cauliflowers, Beets, Asparagus, Cabbage, Lettuce, and Cucumbers; very good for the season.

Saml. Feast & Sons, some Fuchsias, and Cinerarias, cut flowers, and a hand bouquet.

London Feast, a design for the table.

Linnens Feast, a hand bouquet.

John Feast, a numerous collection, including some of the rarest new plants in cultivation.

JOHN FEAST, Sec., H. S. M.

Calendar of Operations.

JULY.

BY WILLIAM SAUNDERS, GERMANTOWN.

VEGETABLE GARDEN.—Keep up a succession of tender, eatable vegetables, by sowing at intervals during the season. Early horn carrot, dwarf beans, turnip-rooted beet, radishes, lettuce, squash, and peas, may yet be sown. In a well-managed garden, a constant supply of young vegetables should be maintained. The chief requirement to insure success, is depth of loosened soil; unless trenched 18 inches deep, vegetable growth must cease in dry weather. It has been observed, that peas sown from the earliest spring sowings, and sown immediately, will afford a fall crop, exempt from mildew. In sowing seeds during droughts, a stream of water should be first run into the drills; a much better method of insuring germination than soaking the seeds.

Succory, for winter salad, should be sown now; a deep, rich soil is necessary. This valuable esculent only requires to be known to be appreciated.

The main crops of winter cabbages, savoys, cauliflower, &c., should be planted out; if the plants are hardy, and have not got drawn and weakly, they will not suffer by removal, especially if the roots are puddled before planting.

Preparation should be in progress for setting out the main crops of celery. This plant requires a deep, moist soil; the custom of digging out trenches is a very questionable mode of preparation. In doing so, the best soil is cast aside, and the plants have nothing but the subsoil, and what manure is applied at the time, to grow in. Manure and trench the ground thoroughly, and plant on the surface; the roots will then have a depth of good soil to depend upon, instead of the watering-pot. The soil required for blanching can be taken from the adjoining surface, and, if taken out to a greater depth than the roots, so much the better, as it will prevent it from rotting by excess of moisture during winter.

Planting in single rows takes up much ground; where it is an object to economize space, the plants may be set in a bed, say five feet wide; plant across the bed in rows, 14 inches apart, the plants 6 or 8 inches apart in the row. In hilling up for blanching, the soil is thrown in between the rows.

Herbs for winter use should be gathered when in flower; just as the flowers begin to fade is said to be the best time for preserving most of their properties. The herbary was a branch of gardening of greater importance formerly than it is in these days of patent medicines. To dry them, tie in small bundles, and hang up in an airy shed.

Loosening the soil among growing crops can hardly be overdone. A broad-tined fork is a

very useful implement for this purpose ; grass cuttings from the lawn may also be used, as a mulching ; taking care that it is not laid down thick enough to ferment, which would render it more injurious than useful.

HARDY FRUIT.—The season of growth is the proper time to prune and train fruit-bearing trees. Look over peach-trees, and shorten in the points of those branches having fruit. This slight check to wood growth will enhance the size and flavor of the fruit. Towards the end of the month, the points of all strong shoots should be pinched off, and some removed altogether if the trees are producing much wood. An early and thorough ripening of the wood is the most important desideratum with fruit-trees. Gooseberries and currant bushes will be improved by thinning the wood, and shortening the side shoots. The fruit should also be thinned, if superior fruit is an object. Raspberries will have their fruiting period much extended by a good watering ; thin out the shoots for next year's crop, and cut out the old canes as soon as the fruit is all gathered.

Strawberry plantations may be made as soon as young plants can be lifted ; this is a favorable time for their removal ; puddle the roots in mud before planting, and they will scarcely fail to grow, even should the weather be very dry.

Remove the mulching from old plantations, and hoe or fork the ground about them ; cut out all runners, and keep all clear from weeds.

LAWTON BLACKBERRY.—This important acquisition to our available fruits deserves special attention. If you have any doubts with regard to their value, call upon your nearest friend who has been fortunate enough to secure them, and judge for yourself. A heavy mulching of well-rotted manure increases the size and quantity of fruit.

GRAPERY.—As the fruit indicates maturity, both the atmosphere and soil should be gradually rendered drier. Leading shoots that have advanced to the desired length for next year's fruiting, should be stopped at the points ; and, towards the end of the month, pinch the point out of every shoot. These gradual checks to growth hasten maturity, without paralyzing the plants. It is a ruinous practice to defer thinning the wood to a late period, and then cut it out in bundles, under the pretence of "letting in light and air."

GREENHOUSE.—Plants that have completed growth, may be now taken out of the house. It is a prevalent custom to set the plants out at a stated period, without reference to their condition ; a practice which deprives those who follow it from having a good crop of flowers at the expected time. This is one reason why we see so many starved-looking and flowerless camellias. Most plants make their growth immediately after flowering, and, during that process, they require their maximum proportion of humidity and warmth. The consequence of exposing them, in this tender condition, to an atmosphere and temperature so completely opposite, is so apparent, even to a novice, that a secluded, shady locality, either in the shade or under the branches of trees, is chosen to prevent total destruction of the young and tender growths. Before removing plants, therefore, to the open air, attention must be directed to their fitness ; the wood must be approaching to maturity, and a degree of hardness should be induced by a gradual withdrawal of water to the roots. A situation where they will have a full exposure to air and sun, will then be the most favorable towards a completion of wood growth and development of flower buds. The pots should also be placed on boards, or other impervious material, in order to prevent rooting through the bottom of the pots, and if they are covered with ashes, tan bark, sawdust, &c., an unnatural extraction of water from the roots, by evaporation through the porous substance of the pots, will be prevented.

Towards the end of the month, pelargoniums should be pruned close down, and cuttings put in to root ; a week's exposure to the sun will harden the wood, and cause the plants to break afresh, much stronger than when pruned in a soft and succulent state. Cuttings may be planted under the shade of a wall or hedge.

Calceolaria seed should be sown this month, in order to have good plants before winter. Prepare a well-drained pot of light, sandy soil, press the surface level and sow the seed, but do not cover it. Cover with a pane of glass, and set in a shaded part out doors. To obviate disturbing the seed by surface watering, insert the pot into another, three or four inches larger, fill the space between the two with moss, and keep it always wet. The soil will absorb sufficient moisture for germination.

Cineraria, and Chinese primrose seed, should also be sown, and treated as above.

Chrysanthemums in pots should be closely topped, to keep them bushy, and prevent early flowering, so that they may be available for the greenhouse and conservatory in early winter. Two or three cuttings, placed in small pots, will form roots, and flower well if not subjected to further pinchings.

HEATHS.—Epaoris, and New Holland plants in general, may be set out of doors, for a few

weeks, after their seasonal growth is completed. To grow many of them well, they should be kept constantly under cover. This is the only way to grow good heaths, provided that they are planted in good, turfy, well-drained, *loamy* soil. Bog earth will soon finish them; rather use a little leaf mould that has been well decomposed.

CACTUSES.—As soon as they are past blooming, give them a shift into good, turfy, rich soil, keep them in the house, and give abundance of water, both at roots and top, by syringing. When they have made good growth, gradually withhold water, and ultimately place them in the sun, on a hard gravel-walk if possible; keep dry and cool during winter, and they will flower profusely. Avoid the common practice of growing them in brick-dust and coal ashes, if you wish to see them flower in perfection.

BEGONIAS are a valuable class for winter and spring flowering; shift now, and get a good growth before winter. Put in cuttings of heliotropes, salvias, cypripediums, torenias, &c., for winter flowering, and sow mignonette and pansy seed for the same object.

The house should now be a mass of flowers; schimenes, gloxinias, and fuchsias, will be in perfection. Keep a moist atmosphere, and shade slightly during the hottest portion of the day. Exclude currents of dry air from passing over the plants, and keep the top lights open constantly, except, of course, during heavy rains. *Tropaeolum* bulbs should be kept perfectly dry; shake them out of the soil, and hang up in a basket in an open shed.

FLOWER GARDEN.—Cut the faded flowers of rose bushes, and make cuttings of the stems; they root readily at this season, in a shaded spot, if well-ripened cuttings are chosen. China roses, and their hybrids, that are going out of bloom, should be pruned well down; they will flower again in the autumn. An occasional watering with manure water will extend the flowering season, as well as enhance the beauty of the flowers individually.

Hollyhocks and dahlias must be securely, but neatly staked; remove lateral and weak shoots from the latter, and propagate choice sorts, by inserting cuttings singly in small pots; they will root well in the shade. Plants procured in this manner will be dried off, and the roots kept in the pots all winter. Such roots are more to be depended on next spring, and will grow more vigorously than those lifted in the usual manner out of the borders.

The coral-tree, *Erythrina cristagalli*, is a beautiful plant as a single specimen. The roots can be annually lifted, and wintered in a dry cellar.

Flower beds and borders should be kept scrupulously neat and clean; hoe all vacant spaces, but do not rake the ground. Stake all plants that absolutely require it, and let it be done neatly, using as few and as short stakes as possible, and tie loosely. Give constant attention to the removal of dead plants, withered leaves and flowers, and remove seed-pods, unless specially required to perpetuate choice varieties.

Keep box edgings neatly clipped and repaired; it can be transplanted at any season, therefore, there is no excuse for imperfections.

LAWNS.—Constant attention must be given to mowing, sweeping, and rolling. There are machines which perform the three operations at one time, which might be very profitably introduced into extensive pleasure grounds.

SHRUBBERY AND PLEASURE GROUNDS.—The application of water to recently planted trees, requires discrimination. Where the soil has been prepared as formerly recommended, there will be no necessity for watering deciduous trees, unless they are growing luxuriantly, and the weather prove very dry. Evergreens have a greater extent of active foliage, and, in consequence, require a more regular and constant supply of moisture to meet the continued evaporation by the leaves. When water is applied, draw a little of the soil from the base of the plant, so as to form a small basin, and give a good soaking; then return the soil loosely into its former position. Mulching with stones is a good practice in deep soils; the heat they absorb draws up the moisture from below by capillary contraction, producing a somewhat different effect from a mulching of loose matter, as manure, &c., which acts rather as a preventive from surface evaporation than furnishing the contained water in this available manner. The latter practice is perhaps the best in shallow ground.

Now is a good time to observe and take notes of the various effects of grouping trees and shrubs, and marking those for removal where they are crowded. Defects are more apparent now than when planting season arrives. Live fences, hedges of Osage orange, honey locust, &c., should be cut frequently during growth, if well established. The greatest fault of these fences, especially with the Osage orange, is its excessive growth. Summer pruning is the best means of counteracting this; if allowed to grow at random, and pruned only in winter, it will be impossible to keep a neat and satisfactory hedge. This will prove to be its greatest drawback as a fence for general farming purposes. All farmers cannot give proper attention to these matters while they are busily engaged with their crops.



Rural Education

The *Chrysalis*, a little magazine, is
 now publishing reports on the
 work of the rural schools in
 what you call the "country."
 It was founded by a group
 of teachers and parents who were
 interested in the rural schools
 and who wanted to know what was
 going on in them. *

The following are a few of the
 most recent, interesting, and
 important reports.

(Continued from page 4)

For a long time we have been
 readers of the *Chrysalis* and have
 been very interested in the
 reports of the rural schools in
 the South and the West.
 It is very interesting to see
 the work of the rural schools.

For a long time we have been
 interested in the work of the
 rural schools, and we have
 been very interested in the
 reports of the rural schools in
 the South and the West.

(Continued from page 4)

In the past, it will be proper to
 say that the rural schools have
 been very interested in the
 work of the rural schools in
 the South and the West.
 It is very interesting to see
 the work of the rural schools.

For a long time we have been
 interested in the work of the
 rural schools, and we have
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 reports of the rural schools in
 the South and the West.



Rural Cemeteries.

The poor chrysalis, in his lonely grave,
Seemed sinking hopeless in oblivion's wave.
But lo! what magic bursts the dreary tomb!

What voice angelic bids the sleeper rise!
He wakes arrayed in beauty's living bloom,
His new-born plumage tinged with rainbow dyes;
In air gay floating, while the sunbeam flings
A blaze of splendor o'er his glossy wings.
Thy emblem this * * * *

SAMUEL J. SMITH.



THE following communication from a valued correspondent, leaves us little choice but to endeavor to comply with its requisition:—

OFFICE OF THE CEMETERY OF SPRING GROVE,
CINCINNATI, March 4, 1856.

DEAR SIR: You will confer a favor on many readers of the *Horticulturist*, by publishing in that valuable magazine an article on the "Proper Selection of Inclosures for Lots, and of Trees and Shrubs for planting in Rural Cemeteries." It gives me pleasure to state, that a taste for these laudable improvements is rapidly increasing throughout the West, and, to our Eastern brethren, we look for such instruction in the adornment of cemetery grounds as their judgment, from experience of many years' standing, may be able to afford.

Very respectfully,

R. BUCHANAN, *President*.

To JOHN JAY SMITH, Esq.,
President Laurel Hill Cemetery, Philadelphia.

In the first place, it will be proper to remark, that in the history of a permanent cemetery, a century is but a short period; hence, preparations for its embellishment by the managers as well as the individual owners of lots, should be made on different principles from those usually employed about a house or a garden; and this leads to the further remark, founded upon the transitory nature of man's existence, by which it happens that often in less than twenty years, there is no interested party, unless it be the Cemetery Company itself (which cannot, in all cases, be calculated on), left to care for, keep in order, and cultivate the sacred spot where we have placed our most cherished friends, and where we expect to be deposited ourselves. What folly it is, then, to inclose a lot with poor iron railing, that we know, beforehand, will rust and decay in a very few years, and even sooner if it is not regularly painted; indeed, iron may be said to *rot*, when exposed to all the atmospheric influences, just as paper decays; the process is only less rapid.

In looking about us, then, and taking into view the lapse of time, it might be supposed we should employ at least as much care for our slightly more extended prospects of earthly immortality, as the chrysalis does when it wraps its mantle around it, and protects itself with such wonderful care, to guard against a single winter's cold.

As a general rule, all this is neglected, especially by those who inclose lots, with many of whom it cannot have failed to be a cherished hope that they have

provided, in perpetuity, for their places of sepulture. Vain hope! in a century from this time, it may not be too much to say, at least a majority of all the so-called "improvements" will be dissolved into their original elements, and, "like the baseless fabric of a vision," be no more. A little reflection will convince any one of this, if we except vaults below ground, which, being built of brick, and properly constructed, are much more imperishable; we speak of the surface; the parts exposed to the atmosphere, and to public scrutiny.

Of the monuments, it will only be necessary to say, that no limestone (marble) has yet been discovered which is indestructible, or even what might be called enduring. Granite is much more so, but, wherever this is imperfectly jointed, the inexorable tooth of time, aided by moisture, fungi, and frost, must sooner or later be the conqueror in this climate. This is a slower process than that which attacks the iron, and need not, perhaps, detain us; but, wherever metal and stone are united, as they frequently are, rust must discolor, and destruction ensue.

How, then, shall we improve cemetery lots? becomes a very nice and delicate question, which we shall endeavor to answer, with all the lights which we yet possess.

There are two descriptions of rural cemeteries adopted in this country; very different in their general outline, and necessarily differing extremely in their natural and artificial styles. The first is the wooded cemetery; of this kind are Greenwood, at New York, Mount Auburn, near Boston, Green Lawn, Baltimore, and the one over which our correspondent so ably presides, at Cincinnati. They are essentially very extensive, and calculated to accommodate a large population for a long series of years; they are the type with which the rural burial-place became identified in the American mind; with which, in short, our people, the moment they saw Mount Auburn, were not only satisfied, as contradistinguished from the close city graveyard, but gratified. From this truly rural specimen have arisen the many successors we now see distributed around our cities, mostly with good taste.

Of the second, or garden cemetery, LAUREL HILL, at Philadelphia, which we have planted and tended, with a sedulous affection, for twenty years, may be taken as the example. No suitable spot, of very large dimensions, was to be found near our comparatively old city,* and, moreover, till the experiment was tried, it was firmly believed, by thoughtful people, that the habits of the citizens would be opposed to departing from the vicinity of the church; this might have been true, had the churches made proper preparations for a rapidly increasing population; but they neglected to do so, though very often their charges amounted to sums that the bereaved could ill afford to meet. Country accommodation became a necessity from the crowded condition of city receptacles; rural cemeteries were at once established in popular favor in every educated community where the want was felt, no less than where it was not.

In a large rural cemetery, trees offer the first means of improvement, and afford the greatest beauty; they are, if there were but one essential beauty to be studied, *the* essential; fortunately, where ample space exists, there are few trees that are utterly unsuitable, nature having formed but few floral adornments that even the instructed eye utterly disclaims. There is, however, a choice, and we shall proceed to point out what experience has shown are the best. In doing so, we shall first consider those that are to constitute the permanent investments, if we may so speak, and, afterwards, those trees or shrubs which are more suitable to individual lots, inclosed or otherwise.

* The Laurel Hill Company commenced with but twenty acres; this has been gradually extended till the corporation possesses about sixty acres.

A judicious selection and apportionment of evergreens is essential ; their partial gloom is favorable to contemplation, and yet they afford a cheerfulness, in winter, highly agreeable. As in the material of monuments, and in inclosures, we are to provide for the future, to prepare a sylvan shade in which our successors may walk, and ruminate on the deeds and men of a former time, we should suit our plantations to the objects around us, and yet have the eye prominently fixed on what our plantations will become. The landscape gardener is nowhere so much required as in the laying out of a large cemetery. He knows, or ought to know, to what height each tree may be expected to attain ; his eye should look with critical judgment, to the future more than the present, in selecting a tree for yonder knoll, or to border the river, stream, and lake. He must also remember his climate, the soil, and what particular trees flourish best in them ;

" Or such as, by experience once approv'd,
Are found adopted by the climes they lov'd.
All other foreign plants with caution try,
Nor aim at infinite variety."

So says the poet, and yet we highly recommend variety, though an "infinite" variety should be avoided. It is an error, in planting a large cemetery, to employ only the trees that succeed in the immediate neighborhood ; even in a well-wooded site, where, to the eye of the citizen, there is shade in abundance, and perhaps to spare, a judicious addition of hardy trees and shrubs, with a foreign air, are of great importance. Thousands of persons who visit Laurel Hill do not *define* this source of gratification, though they are sensible of something novel and pleasing. Had they been accustomed to the study of foliage, they would at once ascertain that they were surrounded, not only by the beautiful in form, but by the rare ; they, perhaps, carry away with them an impression that it is the monuments, and the river, and the general views, that have so struck their minds ; but the element of variety in the trees was still one of the charms. We are planting, in this age, for posterity, among whose countless throngs there will be a larger proportion of educated observers than there is now. These burial places, too, have a permanency of character that no other spots can aspire to, and here the next generations will expect to find examples of well-grown trees from which they can form some ideas of what they should plant themselves, in grounds of their own ; the time taken to attain certain heights will here be studied. It is, in fact, as leaders of *public taste* that we look upon public cemeteries as of much importance. One can form a tolerably correct idea of the neighboring community, by seeing the condition of the best cemetery of a city ; the evidences of the cultivation of the people will here be displayed, and judged of accordingly.

We have exhausted the space designed to name the trees that we deem suitable for the purposes requested, and must postpone to another date some further remarks on the subject.

DOYENNE D'ALENÇON PEAR.*

AMONG the European winter or late pears, perhaps we have no better than the Doyenné D'Alençon (or new Easter Beurré, Doyenné D'Hiver Nouveau). Its qualities have been fully tested in many States, and prove to be uniformly good.

Tree, a fine, handsome grower, succeeding well on both stocks, quince or pear ; a good bearer, and requiring but little pruning. *Fruit*, obovate, pyriform, medium size, heavy and solid. *Stem*, about one inch in length, medium size, and swollen

* See Frontispiece.

at the base, and inserted in a shallow cavity, sometimes without any depression; eye closed, medium, and not deeply sunk. *Skin*, ruddy, pale green at the bottom, but dotted and speckled all over with numerous dots and shades, ripening, in some localities, with very rich, decided colors, which explain its synonyme of Doyenné Marbre (or marked, spotted Doyenné.) *Flesh*, white, firm, buttery, juicy, with flavor and sugar enough to make it a very fine winter fruit; not so high flavored as its congener, the old Doyenné D'Hiver (or Easter Buerre), but very pleasant, and destitute of grit, stones, and bitter spots, which so often render that fine fruit worthless.

Taking into consideration that the Easter Buerre yields only an average of one-half or one-third of a full crop of "very good" pears, we must look to the D'Alençon, if not as a substitute for the old Easter, at least as a valuable addition to our scanty stock of winter pears.

We ought to designate this pear under one of its synonymes, but its other name, Doyenne D'Hiver Nouveau, is altogether too long. "Six-legged" names should be avoided, when possible, in naming fruits.

PEAR CULTURE, NO. 4

BY DR. J. M. WARD, NEWARK, N. J.

To redeem the promise with which my last article closed, I shall proceed at once to consider the causes of the failures of some varieties of pear that ordinarily do well on the quince, and that, in other positions on my own farm, are among the thriftiest of my trees. These causes constitute some of the most prominent objections to the substitution of the quince for the pear stock, in the cultivation of the pear.

The quince is a native of Japan. "The climate," Malte-Brun says, "is variable, abounding in genial rains;" that "during the autumnal months, particularly," the season of all others most trying to our fruit-trees, "much rain falls;" and adds, "it is a country in which thunder is heard almost every night in summer, and where showers and hurricanes abound." In the recognition of the fact that nature has adapted the quince to those of its native islands, may we not divine the reason of the admission by horticulturists, that the quince delights in moist places, and are warranted in saying it still retains, and, in obedience to nature's law, ever will retain, a demand for those conditions of soil its constitutional adaptations require.

With this stand-point, we can respect the authority of our fruit culturists, when they tell us "it will thrive where the cultivation is rich and deep," for the reason that if the substratum of soil is highly retentive of water, there the requisite degree of moisture for thrifty growth may be secured. Without this, failures will occur that will disappoint the expectation of the culturists, and give discrepancy of testimony to their teachings, while each may be in perfect harmony with their experience.

In one part of my orchard, the dwarfs have proved a decided failure—the part, too, where, the reader will bear in mind, the trees had enjoyed the richest culture, and received the greatest care—while those removed to a distant part of the same field, exhibit great precocity of growth. The cause is to be found unquestionably in the fact that the soil of the latter is underlaid by a clay substratum, while that of the former is a gravelly loam.

Downing says: "The quince grows *naturally* in rather moist soil, by the side of rivulets and streams of water." Thomas adds: "The soil for the quince should be deep and rich—a rather moist soil has been preferred by many, though not essential—deep and enriching cultivation being of incalculably more importance." The importance of deep and rich cultivation we admit, but unless it be in connection with a moist soil—such as a proper substratum only will give you in our climate—failures will be the rule, and successful culture the exception, as fruit culturists will testify when their observations are made matter of record. And since, in all probability, but few of those who have embarked in the growing of the Pear on the quince have been aware of the necessity of studying the habits of the stock, it will be strange, indeed, if expectations of success should fail to be realized from this cause alone.

But the most weighty objection to the general introduction of the dwarfing of the Pear is, that in a great majority of cases the orchard-trees, especially, will not receive sufficient attention to secure success. A Pear-tree, once established in any soil of moderate tilth, will take care of itself, will ordinarily find nutriment enough to secure vigorous growth, will at least make progress in the world, and bear fruit. Not so with the dwarf. The range its rootlets travel for food is circumscribed. Numerous as those rootlets are, they will soon exhaust the soil of the food nature has supplied, and if attention is not given it—and good attention, too—it very soon shows its neglect. And good feeding is not all that is required. If well fed, it will give you towering shoots; these you must repress. *But*, with this, your work is not done. Your spring pruning, laboriously completed, is soon followed by a call for June pinching. And, again, your autumn shortening must not be neglected, or your reward for high culture will consist in great luxuriance of growth, which, though pleasing to the eye, will not satisfy the palate. And, furthermore, in orchard culture, in our country of abounding high winds, with occasional thunder-storms, the culturist who neglects to *shorten-in* will sometimes find the reward for his labor unexpectedly given in a prostration of his heavy-laden trees, and his hopes together. The separation is so readily made at the usual swelling over—just at the junction of the graft with the stock—that it is not unusual, under these circumstances, for this accident to occur.

This repressing of the *wood force* by the usual spring pruning, June pinching, and August shortening-in of the shoots, when described to the novice, appears more like play than work; and, when demanded by the few pet dwarfs in the garden of the amateur, is truly pleasant recreation, but, to the orchardist—with knife in hand—the work of thus preserving a due relation between the wood and fruit principles in his hundreds of trees that have already attained the size good cultivation for a number of years has given them, is the imposition of no slight task. Very few have any adequate idea of the labor demanded, and fewer, still, when they learn it have moral courage manfully to meet it. Untrained laborers cannot here be trusted—one's *own* hands, or those of a judicious gardener, must do the work.

Cowper has well expressed the feelings of the orchardist on this subject, when he says:—

"These, therefore, are his own peculiar charge;
No meaner hand may discipline the shoots,
None but his steel approach them."

"He disposes neat
At measured distances, that air and sun,
Admitted freely, may afford their aid,
And ventilate and warm the swelling buds."

Touching the varieties worthy of general cultivation on the quince, I would fain speak reservedly. As yet, my experience is too limited to warrant saying much. Happy would I be, Mr. Editor, if some one of your able correspondents would come to my relief, and take up the thread of the subject just at this point.

Mr. Rivers, that most accomplished English pomologist, says, out of one thousand varieties of Pear in cultivation, he grows but four for the Covent Garden market—three of these are on Pear stock, the Louise Bonne de Jersey alone on quince. No judge of Pears will dare to lift his voice disparagingly to the character of that most rapid growing variety, uniformly bearing abundant crops of well-formed fruit, which, though not of the highest flavor, is yet such a pleasant sub-acid, as to be a universal favorite.

Our experience in this country certainly demands that the Duchess d'Angouleme should, of all others, be cultivated on the quince—the more vigorous growth of the tree—together with the improvement in the quality of the fruit, secures to it, in my judgment, above all others, a substitution of the quince for the Pear stock.

I have not, Mr. Editor, said all of what I had designed to say on this subject; and, if you will accept as an apology my present pressing engagements, even to weariness, in the garden and orchard, for discontinuing, for a time, the completion of the series, when another season has enlarged my observations, I promise a return to it, unless, in the mean time, some abler hand shall render the labor superfluous.

THE WALTONIAN PROPAGATING CASE.

BY D. BEATON, LONDON.



THE application of hot water to the heating of horticultural structures, was a long step in the advance of progress. Since then, efforts have been constantly made to improve on and simplify the principle, so as to obtain the greatest results at the smallest possible cost.

The Waltonian Case, of which we give, herewith, cuts from the *Cottage Gardener*, is one of the latest improvements, the chief feature being that the water is heated by a lamp, instead of an ordinary fire. It seems to answer its purpose very well, and will be quite the thing for many of our amateur friends, while the principle on which it is heated will afford a hint to many of our more professional readers.

Mr. Beaton, one of the most practical of English gardeners, thus speaks of its success there:—

"I must repeat, that I never saw a better contrivance for amateurs to strike cuttings and raise seedlings with than this of Mr. Walton's, and that there is not a better mode in existence as far as I am aware of. There is nothing better in any of the London nurseries I have seen; nor at any of the botanic gardens; nor, in short, anywhere.

Hot water, without circulation, is now proved to be as good, on a small scale, as it is by circulation on a large one. Mr. Walton's first idea was to apply the heat of a lamp, or gas jet, to the bottom of a tin can, by means of a double bottom or "false bottom," and on that principle his own Case is still worked. In the present form of it, the heat is brought direct into the body of the water in a zinc tube,

coiling round and round, then out through the back of the Case, to carry off the smoke and smell; and the principle is the same as that by which the water in the basins in the Crystal Palace is kept warm; hot water-pipes heat the water in the basins, and a zinc pipe heats that in this apparatus, being heated itself either by gas or oil. But, where gas can be applied, I would recommend it as far preferable to a lamp, because there is no bother about snuffing, trimming wicks, or keeping a lamp clean. A lamp must be trusted to a servant when the master is out, and if he neglects it, your batch of cuttings may be dead and gone before you come home. But as gas cannot be had everywhere, I subjoin Mr. Walton's description of his own Case, with sketches to illustrate the working, premising that his fears about the draught from the lamp through a coil of tubing were groundless when the gas was applied, and that nothing acts more satisfactorily with a very small jet of gas. Neither is it necessary to begin with hot water if that in the tin case should get cold at any time. Also, that what he means by the lamp burning for eight hours, is not that the half pint of oil is consumed in that time, but that the lamp requires trimming at the end of eight hours."

Mr. Walton, the inventor, thus describes his Case :—

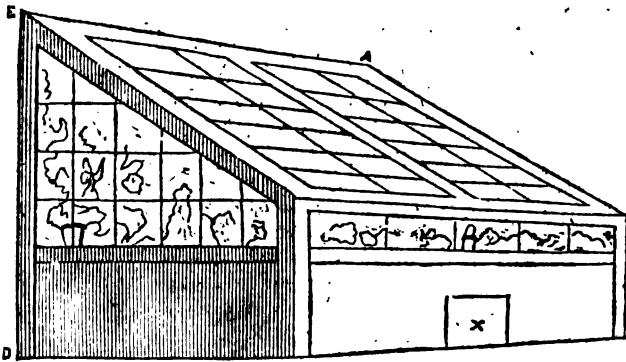
"The box I used was an old one, to which I added a top, so as to give an inclination, as in a garden frame. Half way down, in the inside, a moulding is nailed, on which the zinc frame rests. The pots are placed on the zinc frame. The boiler is of tin, surrounded by a false cover of tin, which I found necessary to create a draught for the lamp. A small chimney runs from the inner boiler, through the false cover, into the frame; and, although the water does not boil, the steam, or moisture, keeps the frame damp. The false cover has a chimney which runs through the frame and out at the back, to carry off the smoke, if any, but there ought to be very little. The lights are divided into three, and are merely fixed in zinc frames, not wood, and let into the top, to lift on and off, or tilt. This is better and cheaper than glass in a wood frame, as the water (why, I cannot tell) does not drop inside, but rests on the outside, and may be tilted off. The lamp was made by Smithurst, of Bond Street, but is quite plain and circular, holding more than half a pint of Colza oil. It must be well trimmed, so as not to smoke, and then will burn eight hours. A tin lamp will do just as well. The smoke does not get at the plants, but would collect at the bottom of the boiler, and fall on the lamp.

"The lamp is three inches high, and four inches across. If trimmed at night, it will be alight in the morning, and should be trimmed in the middle of the day. If the lamp should go out, and the water become quite cold, draw off some and add hot water, otherwise the lamp will not burn. I have raised from cuttings, *Roses, Verbenas, Fuchsias, and Dielytra spectabilis*, and it is excellent for forcing seeds of all sorts. Mr. Beaton, our gardening authority here, says it will raise anything that can be raised by heat, as it is so clean and moist. He has suggested an improvement, which I intend to try; which is, to do away with the outer tin case, and to insert, at the bottom of the boiler, a coil of zinc tubing, and to carry it out through the case as my smoke is now. This would be more simple, but I very much doubt if the lamp would have sufficient draught to burn. Mr. West, the ironmonger here, has made them complete for 35s.; but he could make the boiler apparatus, tin lamp, &c., separate, and you could have the zinc tray and box made in the country to fit the boiler."

The following description of one by Mr. Beaton, will fully explain the structure in all its details. It is no doubt capable of many improvements, of which our "Yankee genius" will not be slow to avail itself :—

"My lamp is copper, but tin would do as well. It has an extra head to burn

three wicks instead of one, which add much to the heat, but I found one sufficient.

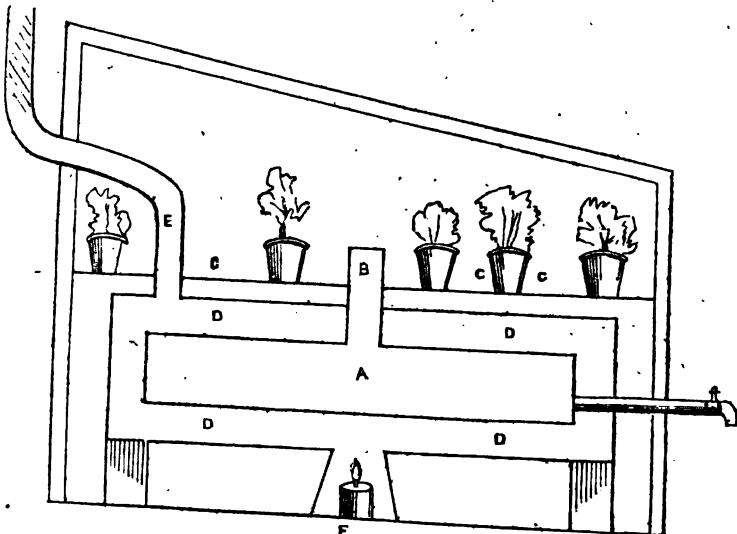


A to E, 2 feet 8 inches. A to C, 1 foot 9 inches. C to E, 1 foot. D to E, 2 feet 7 inches. X, door for lamp.

The lamp holds more than half a pint of oil, is three inches high, and four inches across.

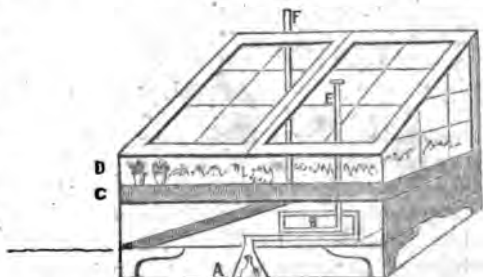
"The best size for the box is thirty-four inches long, seventeen inches wide, thirteen deep in front, and eighteen inches at the back, all inside measure. Such a box will hold three rows of No. 48 pots, and six pots in a row; or four rows

of No. 60, and eight pots in the row. When making a smaller, or a larger box, one ought to fix on how many of those two sizes of pots the box would hold conveniently without loss of space. An amateur should never use a pot larger than a 48 for striking cuttings, and that size is large enough for all his seeds. The tin case to hold the water should not be less than four inches shorter or narrower than the box inside, which leaves two inches between the tin and wooden boxes at the ends and sides, and it should be four inches deep; then, when the heat is raised to 80° or 85°, it matters not if the lamp, or jet of gas, should go out for some



A. Boiler. B. Steam chimney, opening into the middle of box through the zinc tray. C C C. Zinc tray. D D D. Outer cover to boiler, through which the heat is conveyed from the lamp round the boiler, and the smoke out through E. H. Tap to draw off the water.

hours, or as long as the heat keeps up to 70°. If the size of the tin box is so small that the body of water in it is not sufficient to keep up the heat for several hours without a constant burning of gas, or oil, the first expense will be less, but the disadvantage would be in greater proportion. The lid of the tin case is made in the shape of a tray, with the edges raised about half an inch, so as to hold sand on which the pots stand; a tube, five or six inches long, and about an inch in diameter, is soldered to the lid to let up vapor, not steam, from the hot water, so as to keep the air sufficiently moist for the health of the cuttings or seedlings. If too much vapor rises, cork the tube. Make the tube also to index the depth of water by a float—a piece of cork with a small stick fixed in it, and rising through the tube; but it might be supplied from the outside by another tube, and a tap to empty the water may be applied. But I see no use in that, as the lid is not fixed in the present case; it fits like the lid of a teakettle, and as closely, so as to let off no steam or vapor, and the raised rim of the lid projects an inch beyond the edge of the box. You begin in February, and, when you leave off in summer, the whole should be opened, and receive a coat of paint, and there is no occasion to draw off the water by a tap in the mean time. The tin box rests



A. Gas jet under the funnel head. B. Coil of zinc tube, one inch in diameter. C. Lid covered with sand. D. Pots of cuttings or seeds. E. Vapor tube. F. Smoke or smell tube.

on the bottom of the wooden box without anything between them; but the two-inch spaces at the sides and ends should be filled up with sand to the level of the sand on the lid. The end of the tube for heating passes down through both the boxes, and ends with a funnel head to receive the jet, and there is a 'nest' for holding a lamp. The wooden box stands five or six inches from the ground, on legs, after the manner of a chest of drawers. The sashes to cover with may be like garden-lights, or in one piece of stout glass let into a zinc frame, to move 'off and on;' or the top may be hinged on and locked, like a desk; and, as I said before, the whole may be made to suit a drawing-room, where it would 'work' just as well as anywhere else. It is not calculated for the open air."

In a subsequent article, Mr. Beaton says: "My anticipations about the success of this simple method of striking cuttings on a small scale, are more than verified already. From the middle of last February—the only time left to Mr. West for testing the practicability of the contrivance—he has been unremitting in his experiments with cuttings, plants, and seeds, under a lock and key. He has simplified the contrivance, and lessened the expense of working it with oil or gas. His own lamp will burn twelve hours without trimming, and heats the Case just as easily as the gas; but still, a jet of gas is more handy, and less trouble."

"We have discovered another very important use of the Waltonian system: it may be successfully applied as bottom and top-heat to a Wardian Case, full of orchids, or of any other section of plants—Ferns, Alpines, and all; a portable hothouse system, in fact, which will do for the top and bottom-heat equally well at the same time. The whole family of *Anætochilids* and *Physurads* may be grown in a drawing-room by this means, in a close Wardian Case of the highest finish, just as easily as in an orchid-house. By the vapor tube you may admit as much

moisture as the air will hold ; or, by corking it, the heated air inside might be rendered sufficiently dry for a Melocactus or a Mammillaria. You may fix on the proper degree of heat which will best suit your Wardian Case, from 40° to 65° or 70°, or more, and with a common lamp, quite out of sight, the required degree is kept up nobody knows how. I should not wonder to see one of them at work in the Crystal Palace. If I wished to push the Wardian Drawing-room Case into the world, I would place one or two of them there, to be heated to the right pitch by the Waltonian system of bottom and top heat. With the Waltonian Case for propagation, you cannot have the cuttings too close, but, if you raise seedlings in it, they must have fresh air as soon as they are up."

VISITS TO COUNTRY PLACES, NO. 1. AROUND NEW YORK.

THE vicinity of New York, as might naturally be expected where commerce has left its most remarkable imprints, and has consigned to the industrious and successful an amount of spending money nowhere else, in this country, to be paralleled, presents some remarkable features of rural life and adornment which it is well to chronicle.

Breaking away from our editorial chair, we have lately made excursions to some of these spots, omitting, for the present, many places that are worthy of remark.

We first visited Dr. J. M. Ward, near Newark, N. J. The doctor is engaged in the laudable pursuit of fruit culture, for the New York market. This he does from a love of the subject, no less than with a view to the benefit of himself and his family ; his example is one which we should be glad to see followed by other gentlemen, who, by showing what may be done by the employment of capital and intelligence, will be the means of teaching others, and thus a better supply of wholesome fruit will be at the command of our great cities, now but half supplied. The demand appears to be unlimited ; in New York, for instance, his agents, the middle men, a class of honest dealers who have risen up since the mode of *sending* fruit by wholesale, instead of accompanying it, and chaffering for the market value, keep an account of the quantity received from each cultivator, and allow full returns in a most business-like way. Thus one of the most serious difficulties is obviated. Dr. Ward employs pickers at so much a bushel or quart, and by the hour ; he can be mostly at home to superintend these operations ; the fruit is forwarded by a regular steamboat, consigned to the middle-man, who receives it within an hour or two, has his market engaged for each variety, and the distribution goes on like clock-work. You may leave Dr. Ward's at breakfast-time, and dine at Delmonico's, on his strawberries, which were being picked when you started ; or be at a private party in the Fifth Avenue, in the evening, enjoying his grapes or pears, which left Newark at four o'clock.

The proprietor enjoys a great advantage of his own ; as the fruit ripens by degrees, the first picking of grapes, blackberries, or strawberries, being insufficient for market, the family have the earliest for themselves and their friends, and, by the time the period of abundance has arrived, they have probably had sufficient to satisfy all, and can devote the whole remaining crop to sales. Dr. Ward has five acres of strawberries, an acre and a half of raspberries, one acre of grapes, two hundred cherry-trees planted along his paths and roads, in such positions as not to injure the other crops by their shade, one thousand pear-trees, standards

and dwarfs, half an acre or more of currants, and his place is beautified with shade and ornamental trees, forming a *tout ensemble* of plenty and beauty such as thousands living in cities might envy, and if they would study the subject as the doctor studies it, might reap rich returns from.

Though this place has been in the tenure of its present owner but ten years, the returns are already nearly sufficient for the wants of a large family. The strawberry culture is of recent introduction, and we shall be surprised if the entire returns of the present season do not considerably exceed three thousand dollars, with abundance of all farm produce for himself. Surrounded by beautiful scenery, fine wood and water, an intelligent home and visiting circle, our friend and correspondent enjoys a life much to his own taste, and confers a useful boon on his fellow-men. In winter, the family remove to Philadelphia, where the doctor lectures to a class of medical students, and attends to the education of his family. This is a picture so pleasing to the mind, and so eminently worthy of imitation for its utility, that our host will pardon our holding it up in this way as an example to others. Already his neighborhood is benefited and improved by seeing his success; in a few years, this section of New Jersey will be a main prop in supplying the greedy maw of its neighbor, New York, to the advantage of both.

Dr. Ward, after much examination, has adopted the Iowa or Washington Strawberry, as producing a large and valuable crop. Burr's new Pine, he thinks, will prove too soft for a carrying crop, though its flavor is unsurpassed. The Early Scarlet follows Iowa in ripening, and is a good market kind. Hovey's Seedling he considers an excellent market crop, and that it must always continue to be valuable. Several other kinds are under experimental cultivation. We were so fortunate as to be there at the earliest picking, when the citizens were paying any price demanded for the first berries of a good size and from the neighborhood, the Southern ones being discarded as soon as the Jersey crop made its appearance. The pear-trees here will yield an average crop, which may be worth a thousand dollars; much more than this sum will, no doubt, be realized per annum, when the standard trees come into bearing. Dr. Ward has himself enlightened our readers on his mode of pear culture, so that we need not enter now on the subject. All the larger cities of the Union, and even very many small ones, offer inducements to cultivators to pursue the system we have faintly indicated. A few years only will elapse before this gentlemanly system will be extensively imitated.

We also visited the nursery grounds of Mr. William Reed, of Elizabethtown, N. J., which are among the neatest and best kept in America. His lawn around his house was so neatly sheared, and in such fine condition, as to put to the blush many grand gentlemen's seats. Mr. Reed is famous for the beauty of his specimen hedges, which he shears twice a year, in June and September. The three-thorned locust, *Gleditsia triacanthos*, he considers to be the best for a farm hedge, superior to the Maclura for turning cattle, and having this advantage, that when planted close, if neglected, it still forms an impenetrable fence. His beech, arbor vitæ, holly, juniper, Japan quince, and other hedges, are fine examples of beauty added to scenery by this method.

We saw here fine specimens of the Magnolia conspicua, Purple Elm, Pinus palustris, or long-leaved Pine, White Spruce, Juniperus oblonga pendula, and Communis pendula or Cracovia, Savin, Halesia diptera, a plant now much sought after, the Holly-leaved Cherry, and many of the new Evergreens and rarities which he takes pleasure in introducing. Mr. Reed's nurseries are all drained, and he therefore lifts his trees for spring sales at an earlier date than others; broad avenues of well pastured grass intersect his grounds, and through these the water from the drains trickles in the driest seasons. Every nurseryman should see Mr.

Reed's establishment; there are few who could not reap advantage from his example.

Our next will conduct the reader to Staten Island and the North River.

DECORATIVE ARTS.

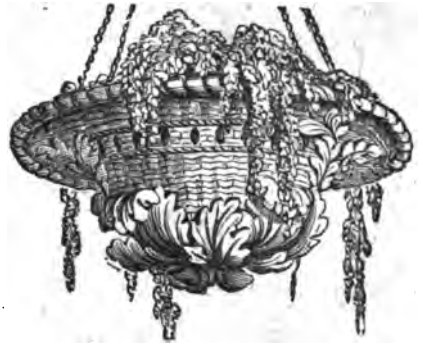
To those who know the power of art to educate and refine the taste, the social life and character of a people, it has always been a cause of regret that the appreciation and enjoyment of it should have been long confined to the few whose wealth was equal to the purchase of its costly decorations. We believe that art



is capable of accomplishing all that is claimed for it by its most enthusiastic friends, when our life, in all its pursuits, is brought into daily contact with its productions; when its works are no longer a monopoly, but an every-day possession, within

the reach of the workman as well as the millionaire. Within a few years, this has become possible, by the discovery of new methods and materials capable of producing works of high art, with beauty unimpaired, and at a price which makes them accessible to all. The introduction of Parian, a comparatively new material, has given to these manufactures a feeling of art, and a power of expressing it unknown in other materials. Sculpture is rendered by it more faithfully than pictures by engraving. The rich, transparent tone, and semi-opaque shadows of marble, preserve all their softness in Parian.

The first group above is a collection of pillars, vases, and seats, for the garden, and here is a hanging basket in terra cotta, intended for the parlor cultivation of orchidaceous or trailing plants, now happily becoming an enlightened pastime with the ladies. A cultivated taste for flowers ranks with *connaissance* in the Fine Arts, as indicating intelligence and refinement. It is a pity that any one should wait for expensive greenhouses, to gratify that taste. A few vases and hanging baskets are all that is requisite to realize as much pleasure as can be gained from the princely gardens of Chatsworth.



LOMBARDY POPLARS, &c.

BY P. G. BERTHOLET, BUCKS COUNTY, PENNA.

DEAR EDITOR : L. F. A. has contributed an article on "Lombardy Poplars," to your excellent journal. He seems to hold it in very high estimation for ornamental purposes, calling it a "universal tree," and after presenting it as an entirely faultless tree, even not suckering, &c., finally urges us to "give renewed life to this long-neglected Lombardy Poplar."

"Not suckering!" it may behave so well about Black Rock, but certainly, in this locality, I could point out places where it has spread over acres by no other process, and so densely, presenting an appearance not unlike the impenetrable cane-brake; the ground being overgrown with its roots, to the exclusion of everything else, all sending up shoots from every available point. Would that be desirable for the ploughman? Who would like such an acquisition for our gardens and lawns?

It is a tree that, with us, has had its day for planting—but, unfortunately, it takes care of itself. It has become inexterminable, and acts the part of a weed rather than an *ornament* (unless you make no distinctions as to conduct); yet we prefer a proper name by which to know all things, and arrange accordingly—for everything should have its place, and nowhere is this more essential than in landscape gardening to be carried out with good taste.

We have all the requisite materials in our own *Sylva*, for (all) ornamental purposes; these are, unfortunately, the *too much neglected*. There is entirely too much desire—a morbid taste—for foreign acquisitions in planting, by which our natives and oft far superior materials are left uncultivated and neglected. Now

this is wrong, and American journals on horticulture should lend encouragement in the direction it is most needed.

Nature has furnished us with the most complete patterns for planting, and associated her particular varieties of trees, rocks, water, and lawn, most desirable for us, and wherever we trespass upon this rule, we lose sight of the great object for which landscape gardening was instituted, namely: to re-establish by art, genius, &c., as though planted by the hand of nature, what have become to us so lovely in their original form and composition. It is simply to re-establish, in some cherished spots, this state of things, where the unrelenting axe of the woodman has destroyed the last remnant of nature's superior planting.

According to some this tree is too stiff; so it is. We want the more graceful elms, sublime tulips, and majestic oaks, and regret that men with taste would supersede these, in any way, with thin, tall, gandy, dandy-like *L. poplars*. They won't do for Americans.

If such a thing as *straight lines* are essential in landscape gardening, why cannot such be effected by our red cedars, junipers, arbor vitæ, &c., of our own country, which are certainly more effective, graceful, and beautiful, than the *L. poplar*?

There is the *Ailanthus*, worst of all. It proved a deceiver to those who first brought it from its native shores in Asia (they took it for an improved *sumac*), and when these speculators found out their error,* they contrived to retrieve their loss by presenting it to the public as an oriental ornamental tree, calling it *Tree of Paradise*, &c. But it has equally cheated those who were, by these high-sounding names and false graces, misled to plant it for ornament, in place of our own trees, far superior in beauty, and I doubt whether any spot was ever rendered more celestial by planting it with this misnamed "*Tree of Heaven*."

We do not want this Asiatic trash in America; let us devote our attention to those we have, and something will be accomplished of real stability; and, besides the objectionable qualities, its suckering propensities are fully equal to the Paper Mulberry (a cousin from the same country), and then, when the season of blooming roses is at hand, and lilies render the air redolent with sweet perfume, how contrast the exhaling fumes of the *Ailanthus*! if not actually unwholesome, it is certainly very obnoxious.

It is said that these trees grow fast, and this quality is sometimes urged in their behalf, as an inducement to plant them. It is often the case, *too fast things* have a bad end.

No fair lady is prized or appreciated more than the one who is won after an anxious and attentive course of courtship; and so in this case. Our native trees may not grow so readily nor so rapidly as these exotic weeds; they may require a little extra attention—courting, if you like—but, if once gained, if once established, would not by me be exchanged for the whole catalogue of these foreign trees that have been of late crowded upon us.

Let us cultivate our own—these are at home with us—and note to what degree of perfection we can attain, and not until this great catalogue is exhausted, let us call in foreigners for our ornamental planting.

* It proved indeed a Tartar.

GOLD OF PLEASURE.—CAMELINA SATIVA.

PACKAGES of seed of the above plant having been distributed from the Patent Office, and having had numerous inquiries respecting its nature and use, we may state that it is cultivated for its seeds, which yield oil of a useful nature, either for purposes of illumination, lubricating machinery, or mixing with paints. The cake formed after extraction has also been found highly nutritious in the fattening of oxen and sheep.

It appears, from statements that have been made, that 10 lbs. of seed are required to an acre of land, which will produce, under favorable circumstances, 40 bushels. Eight bushels weighed 448 lbs., and gave 112 lbs. of oil, and 336 lbs. of cake. Thus it appears that an acre will produce 560 lbs. of oil, and 1,680 lbs. of oil-cake.

It will flourish on poor soils, unfit for ordinary grain crops, and stands drought well. The seed is ripe as soon as the pods change from a green to a gold color, and should be cut before over matured. It may be worthy of trial; the illustration will give an idea of the plant, which is annual. It requires similar treatment to buckweat.



GRAPES AND WINE.

REMARKS ON THE GRAPE DISEASE OF EUROPE.

BY J. F. ALLEN, OF SALEM, ESSEX COUNTY, MASSACHUSETTS.

A FEW years since, the "mildew," a parasitic fungus, made its appearance upon the grape-vines of Madeira, and has since been extending itself over the vineyards of Europe, upon which I propose to make the following remarks, having given much attention to grape culture, and investigated, as well as I was able to do, the diseases to which the vine was subject in the United States. I felt sure, after reading the first printed descriptions of the evil, that it would prove to be the

mildew of America, attacking, as it does, the Eastern and European varieties of the grape at midsummer, destroying the entire crop of fruit, so frequently as to discourage its cultivation. The occurrence of very dry, clear weather, in July, will prevent the vegetation of the sporules or seeds of the fungus; and thus the Chasselas and the Black and White Cluster Grapes will ripen fully in most of the New England States. This will happen not oftener than once in ten years; and it is then said we have had a fine, warm season, when the average temperature has not been greater than usual, and the actual cause, the dryness of the air in July and August, is overlooked.

The climate of a large section of the Northern States is well adapted to the cultivation of the grape. There are many varieties of the vine that will withstand winters of equal severity; such, for instance, as are cultivated in Germany, on the Rhine, &c. Why, then, have all attempts to grow these varieties in vineyards in this country proved failures? Because of the attacks of this fungus, as stated above. It usually appears, in Massachusetts, in foggy weather, in July and August, and not earlier. When first seen, it resembles white mould; and, if examined when in this fresh condition through a powerful microscope, it is very beautiful. In the Agricultural Report of the Patent Office for the year 1853, page 311, there may be found an engraved illustration of this mildew fungus. It appears in a communication to the State Department from Nicholas Pike, Consul of the United States at Oporto. This is a correct representation of the American mildew, and leaves no room for doubt as to the identity of the two species. The marks of the mildew can be found on the imported grapes and raisins brought here from Malaga. This is similar to those made by our mildew on the same varieties of the grape. On page 312 of the same Report, is an illustrated specimen, showing its effects upon the fruit. When a grape becomes affected by it, the fruit will either dry up or crack open, as in this specimen, unless checked or destroyed before it makes much progress.

This so-called disease is a living plant, most rapid in its growth, and wonderful in its powers of reproduction and multiplication. It would appear to be a most serious evil to the people of the countries dependent upon the cultivation of the grape for their subsistence. When a vine has once been infected by it, the seeds or sporules, in countless millions, lie waiting a favorable atmospheric change to spring into life; and when this does occur, so rapid is their growth, that in the short space of one day, the under side of the leaf will be almost covered. If the vines are constantly watched, particularly on the under side, and, when the first appearance of the fungus is noted, the flour of sulphur is dusted upon the leaves; this will kill the fungus wherever it comes in contact with it, changing it from white to black, and then it is dead. The difficulty here is in applying the sulphur to the under side of the leaf. It is hard to make it remain in this dry state; and it requires so much labor to go through a vineyard in this manner, as to make the cost, perhaps, an unwarrantable outlay; unless it should prove to be the case, which I think may be so, that after two or three years' application of the sulphur, the seeds of the fungus would be exterminated. I have found a wash quite effectual in destroying this fungus. It can be applied more easily and surely, and with less cost of labor and material. It can be applied on a large scale, with the garden engine; on a smaller, by the syringe or the rose of a watering-pot.

To prepare this wash, take one peck of lime, not slaked, and one pound of sulphur; put them together in a barrel, and pour hot water over them sufficient to slake the lime; see that the sulphur is well mixed with the lime; pour on this three gallons of soft water, and stir the mixture well together. In twenty-four

hours, it will have settled and become perfectly clear. This should be drawn off as clear as possible. Half a pint of this mixture, added to three gallons of water, will be sufficiently strong, and may be applied over the fruit and every part of the vine when the mildew first appears. It can be repeated every few days, if occasion requires. The first application, I have found, would kill the most of it; a second and a third is all that I have ever found necessary for the season. The fruit and foliage have ripened fully on the European varieties. The American or native varieties are less subject to the attacks of this fungus than the European. There is also a difference in these, the "Catawba" and "Isabella" being more attacked than some other kinds.

That this mildew, or fungus, requires a peculiar condition of the atmosphere to allow of its vegetating, is a hopeful fact for the people of the European grape growing regions. A series of seasons unpropitious to its growth may destroy the millions of sporules, or seed vessels, deposited upon their vineyards. Should not this occur, they are not without hope, as sulphur, and a preparation of sulphur, will destroy it. Perseverance with its application, will keep it in subjugation until the favoring season arrives for its final extermination.

CLIMATOLOGY, GRAPE CULTURE, &c.

BY A. HUIDEKOPER, MEADVILLE, PENNA.

Not being a Doctor of Horticulture, with any specialty to advocate, I will have to ask indulgence if my present article is a little promiscuous in its character.

To begin with that very trite subject, the weather, we have had within the last thirty-six months a very dry season, a very wet, a very hot, and a very cold one. All the weather prophets have been at fault, and the auguries, whether based upon bird, or animal, or vegetable phenomena, have been alike deceptive. If the weather is not the result of a present exercise of the Divine will, but is governed by established rules, they are certainly thus far inscrutable to humanity.

In this section of the county, according to a very conservative thermometer kept by Professor T. F. Thickstun, who makes observations for the Smithsonian Institute, the mercury has stood, between the 26th of December and the 21st day of March, twenty-four times below zero, the lowest degree reached being 27° below 0. Instruments in other parts of the village gave four or five degrees below this. Another unusual feature in the weather was the absence of any rain from the 22d of Dec. to the 2d of April, a period of over 14 weeks. On the other hand, the snow, which commenced falling about Christmas, lasted until the middle of April, and accumulated in many places until it was thirty inches deep on the level.

A temperature, several times reached, of from sixty-five to seventy-three degrees below freezing point, of course left its mark pretty deeply on the orchards and ornamental shrubbery.

There is a sad list of killed and wounded, and a very *crymean* air of grief about amateur cultivators. Quinces and roses are killed down to the snow line; Chinese arbor vitæ and many other evergreens are done up brown; the box wood is blanched; peach-trees, if they have any vitality left, will have to submit to severe amputation when new buds have formed; and dwarf pears are more or less affected. Notwithstanding all this, there is much of beauty left in our groves and fields. The snow has protected the winter grain, apple and standard pears are showing their blossom-buds, and we shall probably have a good supply of strawberries and the smaller fruits. Cultivators will hardly relinquish shrubbery

of rare merit because once in the course of many years it is destroyed by an Arctic winter. Yet popular attention will be directed, as it should be, to the hardier class of trees and shrubs in our country, which we are too apt to overlook. In making a selection of the former, however, I can hardly say that I agree with friend Allen (who always writes a spirited and sensible article) in adopting the Balm of Gilead, Athenian Poplar, or Cottonwood.

I carefully eradicated them from my own grounds some years ago, and induced one of my neighbors to do the same thing by the proffer of some sugar-maples as a substitute. They undoubtedly grow rapidly, and look well when young; but they are softwooded, easily broken by storms, great monopolists of soil and space, much given to sprouting, and lack durability. Being large when grown, an equal and more permanent amount of beauty can be obtained by the selection of trees of less objectionable habits. Friend Allen has almost redeemed his tree by that story of the oriole's, but I can assure him that I parted with no birds when I laid an axe to the roots of the cottonwood.

In speaking of Mr. Allen, I fully concur with him in the report he makes to the Western New York Fruit Grower's Association about the "Ladie's sweeting apple." After trying it for two or three years, I have rejected it, as quite below in this region the qualities attributed to it by Mr. Downing.

The failures of fruits from frosts and severe winters will turn attention to the growing of grapes under glass, and in connection with this subject, I would mention that having occasion this spring to remove an old grapery, I found the studding and boards much dry rotted by the tan, with which the walls of the building had been filled. The tan seems to be unnecessary, and for the reason I have given had better be dispensed with. A span roof on a north and south line gives the vines a much greater amount of solar light and heat during the day than a lean-to grapery, with a southern exposure, and the temperature is more equal. As we have sometimes violent winds when it is too warm to close a grapery, fine wire screens over sliding sashes in the ends of the building admit of ventilation, while they break the force of the wind; they also exclude beetles and other insects.

There seems to me to be a debatable philosophy in the reasons given by some of our best writers on grape culture on the subject of ventilation.

Keep the head cool and the feet warm, says Mr. Chorlton (page 24), is advice often given by physicians, and the same rule, with very slight modifications, applies to plants generally. "Nature has no fixed canopy over plants to prevent heat passing upwards," &c. Now we keep our feet warm with cork soles and other appliances, counteracting and not conforming to nature. A seed to germinate requires warmth in the soil, but when the plant or tree is grown, if the soil be kept damp and cool, it will stand the blaze of a July sun on its top without injury. If nature has any rule about it, it would seem to be to keep the roots cool, and the head of a plant warm.

In unison with Mr. Chorlton is a remark of Mr. Saunders in the May number of *Horticulturist*: "Towards the end of this month leave the top sashes open all night, and allow the temperature to fluctuate with the external atmosphere. There is no climate in the world where the temperature is constantly the same."

As a general rule, to give a good deal of ventilation when the weather is warm is good practice, but a grapery should be closed in cold nights, even in midsummer. Analogies are often deceptive, but the analogy with regard to climate and grape culture, if closely observed, would, we think, lead to a different conclusion from that given by Mr. Saunders.

The climates in the world best adapted to grape growing are those which are

marked by uniformity of temperature and the absence of extremes. Uniformity of temperature is then the desideratum, and if we can secure it artificially in a graper, it may be that we can excel any natural climate in the matter of grape culture. Though the vine will be uninjured by the slight fluctuations of temperature in countries where it is indigenous, it seems hardly to follow that the more violent and sudden changes of our North American climate should be innocuous to it. Light frosts, even in June, with us are not unusual.

I merely call attention to what strikes me as eccentricity of theory in these gentlemen, because I know that in mulching, and sprinkling, and keeping the borders in right condition, and in the regulation of temperature, they are practically no doubt as reliable guides as any we have in the country.

Some of our best writers on fruit culture, investigating new diseases, pear blight, black knot, &c., I notice endeavor to account for them by climatology, cold, unseasonable winds, &c., to all which it may be objected that sudden changes of temperature are not *modern* inventions. They have always been common, and of wide extent, while these diseases break out locally, even as to orchards, and extend themselves from place to place, apparently without dependence on temperature. Atmospheric causes, such as produce cholera, yellow fever, and other destructive epidemics, may have a kindred malaria destructive to vegetation. Insects, fungoid productions, which have escaped microscopic observation, may account for the evils we are considering, but a sudden change of temperature, as a reason, does not accord with all the facts.

We close with the hope that some shrewd observer may do something better than raise objections to present theories by giving us new ones in unison with reason and observation on this "knotty" question.

June 1, 1856.

NEW PLANTS.

ECHEVERIA NUDA.

E. foliis in caule strictum altum sparsis obovatis apiculatis glabris obsolete carinatis, spica longa nudâ terminali.

THIS addition to the pretty genus *Echeveria* has been received by the Horticultural Society from Mexico, where it was found on Orizaba by Mr. Botteri. It has a tall, erect stem, covered with smooth, obovate apiculate leaves, and terminated by a leafless spike of flowers, eight or nine inches long. They appear to have been crimson, but the dried specimens, from which alone they are at present known, have only their remains surrounding the fruit. The present species is most like *E. coccinea*, which has narrower leaves and long bracts, giving the spike a leafy appearance.

—NOTYLIA ALBIDA, *Klotzsch. Rchb. f. Xenia*, p. 48.

A graceful little thing, deliciously scented, and beautifully formed, although its flowers are no bigger than Peppercorns, and the whole inflorescence the size of an ear of wheat. From a few thin, oblong leaves, not unlike those of *Rodriguezia secunda*, its natural companion, there droops a graceful, dense raceme of whitish flowers, perfumed like a Lily of the Valley. Their back sepal is oblong, convex, pale apricot colored, very firm and convex, and being in all cases turned to the outside of the inflorescence, the flowers are not unlike little fairy shells. The rest of the blossom is transparent white, except one little pale apricot spot at the base of each petal.

CLINTONIA PULCHRELLA (*varieties*). Nat. Ord. *Lobeliaceæ*.—Many of our readers

know and have admired the beautiful low-growing, annual plant, *Clintonia pulchella*. In M. Van Houtte's *Flor. des Serres*, there are figured three pretty *varieties*; they are of similar growth, size, and habit, as the above-named species, the difference is in the flowers. Var. *a*: the flowers are *blue*, with a large *white* centre, tinged with *yellow* at the eye. Var. *b*: the flowers are *white*, tinged at the eye with *yellow*. Var. *c*: the flowers are of a violet color, with a large white centre, tinged at the eye with yellow. They are very distinct varieties, neat and pretty. The *Clintonia pulchella* differs from the *C. elegans* principally by the *upper lobes* of the blossom, which are divergent, and not contiguous.

ARDISIA SIEBOLDII.—This very handsome species was introduced from China by Dr. Siebold. It is a *graceful* shrubby plant; the leaves are about five inches long, notched, of a *shining* green. It blooms in profusion, and produces a proportionate mass of *brilliant scarlet berries*; even small plants, not more than a foot high, are almost covered with these splendid ornaments, and which continue in perfection during the entire winter and spring. It is one of the most valuable plants for decoration of the stove, conservatory, etc., we possess. Plants may be had at 21s. each.

CAMELLIA JENNY LIND.—Messrs. Henderson and Son gave £200 to Mr. Makenzie, of Philadelphia, in America, for the stock of this variety. The form of the flower is *most exquisite*; the arrangement of the petals to the very centre is *perfection itself*, forming a true half globe; white, streaked with rosy pink. The present price is from 21s. to 63s. per plant.

BEGONIA PICTA.—This beautiful new species has been introduced into England by Messrs. Low & Co., of Clapton Nursery. The foliage is exceedingly ornamental, and the plant forms a neat, dwarfish bush, having large leaves. The leaf-stalks and under part of the young foliage are thickly clothed with short, *bright red hairs*. The upper side of the leaves are a velvety green, with a *frosted, white* zone in the centre; sometimes the frosted white extends so near the edge as only to leave a narrow margin of green; the under side of the leaves is of a purple-red color, extending from the stalk half-way through, the remainder of the leaf being green, margined with red.—*Cottage Gardener*.

THE LATE WINTER, &c. &c.

BY YARDLEY TAYLOR, LOUDON COUNTY, VIRGINIA.

THE effect of the late severe winter being now, in some measure, apparent, it may not be amiss to compare its effects in different localities. We can hardly account for the effect produced on trees and plants here, from the degree of cold indicated by the thermometer, unless we allow something for the long continuation of the cold weather. No thermometer was seen, in this locality, lower than 13° below zero; mine was seen only at 8° below. But I cannot help thinking they have been lower than this. Soon after New Year's day, the wind blew for several days from the northwest, and was very cold; the morning of the 7th, my thermometer was 2° below zero, at sunrise, but, I may observe that, as my situation is much sheltered from the west, the thermometer here does not fall as low as at other places in the neighborhood. On the morning of the 9th, it was again 2° below, and did not rise, during the day, to more than about 15° above. The wind having ceased blowing from the northwest, it began, about noon, to blow from the south, and continued about 24 hours to blow moderately from that quarter. A southerly wind following a cold one from the northwest, is always, for the first 12 hours, more piercing and unpleasant than the other, being accompanied with

a moisture in the atmosphere that makes it exceedingly unpleasant; but, if continued more than that length of time, it always becomes warmer. So, in this case, when the south wind began, the thermometer was about 15° at noon; at sundown it was at zero, at 8 o'clock, at night, 5° below, and, next morning, again at zero. One of my neighbors says his was 13° below at 7 o'clock P. M., so that I cannot help suspecting that the thermometers were lower, during that night, than any of us were aware of.

The peach buds, in many places, are much injured, particularly in valleys and low grounds, while, on high lands, they are uninjured. In my orchard, the more tender varieties are generally destroyed, particularly in the lower part of it. Higher up, the more prominent buds are killed, while a few of the apparently weather buds are now pushing out into bloom. On still higher ground, they are still less injured, but, even there, many buds are dead.

I have a Deodar Cedar, full twelve feet high and twelve inches in circumference at the base, and well branched from the ground, that last fall was a beautiful object, but now presents a sorrowful appearance. All the leaves, with very few exceptions, above the snow line are dead, and the branches look so, too. The lower branches near the ground being covered up with the snow, are not injured, and are now pushing out young buds. The bark and wood beneath looks dark, as if killed, but whether the larger limbs will put out leaves or not, remains to be seen; the smaller twigs are certainly dead. A few green leaves still remain a few feet from the top, near the main stem. This tree was planted, I believe, in 1851, and survived the winters of 1851, 1852, and last winter, except a few of the extremities of the branches.

A Japan Cedar, ten feet high, that was planted out in 1852, has survived the past winter with but little injury; a few of the extremities of the small branches of last year's growth only are killed, and the tree now looks in good condition. It stands on ground about fifteen feet higher than the Deodar; otherwise I know of no difference in situation. This would indicate the Japan Cedar to be more hardy than the Deodar, while the reverse was supposed to be the fact; and, if experience should elsewhere confirm this instance, it would give additional value to the Japan Cedar. The Himalaya Spruce and Menzies Spruce both have lost some leaves, and the latter some small shoots. Irish Yew suffered severely; two specimens were killed down to the snow line, and the third, on higher ground, lost all its outer leaves; the Ivy, too, lost all its outer leaves. Most of our rose bushes were killed above the snow, even when they were inclosed in straw, while those that were laid on the ground and covered up have come out in fine condition. The Evergreen Honeysuckle was killed down to the roots. Paulownia Imperialis has suffered in its flower buds, and its leaf buds look as if injured, while the bark of the branches looks well. The Pride of India has often its extreme shoots killed for a few inches, but now it appears more hurt—time will only show to what extent.

B. Hodge, of Buffalo, asks for the experience of peach growers in other sections, in regard to the effect of extreme cold weather on peach-trees. In answer, I will relate occurrences that took place here more than twenty years ago. On the morning of the 5th of 1st month (Jan.), 1835, the mercury in the thermometer fell to from 18° to 20° below zero in this part of the country. The consequence was, the peach buds were killed, except on our mountain ranges, and the trees themselves looked dark beneath the bark, and many supposed them killed, and some were actually cut down. But, as spring opened, it was found that only the small branches of less than about the size of one's finger, were actually dead, while the larger branches put out shoots, though late, and grew finely, and a new

layer of wood was deposited beneath the bark, and covered up the dark wood. This dark wood was visible for a number of years after, and after a time began to decay, while the outside wood was sound. This effect is still visible in our old trees, being decayed inside while still bearing fruit. Trees often live here to be thirty years old, and I am not sure that it injured their bearing afterwards, though, by causing the larger branches to be weaker, they were more liable to be broken down when loaded with fruit. We find the Grosse Mignone here our most tender variety.

It was rather remarkable, that the cold was more intense across the middle of this State, this winter, than on its northern border, the thermometers, in some places, indicating 26° below zero, and the ice at Fredericksburg, on the Rappahannock, was said to have been twenty-five inches thick.

In several numbers of the *Horticulturist* lately, there have been articles commending the Lombardy Poplar as an ornamental tree. That it has its peculiarities, which render it particularly desirable in certain situations, none can doubt; but all through this region it has died outright, and I know not of a single thrifty specimen anywhere. What can be the cause of so general a destruction? This might be worth while for arboriculturists to inquire into. One suggestion that has been made is, that as the plant is dioecious, and as we have had only the staminate variety, and, consequently, no reproduction from seed, this may be the cause of their failure. If this should be the fact, it might be an easy matter to introduce both kinds from their native regions, and again be able to disseminate them.

I have noticed quite a number of plans recommended as specifics against the depredations of insects on young plants, particularly young cucumbers. The best remedy I have ever seen tried is a decoction of Quassia, say one pound to two gallons of water, boiled so as to get its strength, then, with a small sprinkler or watering-pot, wet the plants well all over, by turning up the under side of the leaves, and, if this is carefully done, no insects will injure them; as new leaves push out, or when rains wash the plants, a repetition will be needed. Quassia can be obtained at the wholesale apothecaries, at about sixteen cents per pound, and its bitter principle seems peculiarly distasteful to insects. A desire to benefit my brother horticulturists, is my excuse for so many different subjects in one communication.

May 1, 1856.

MR. BARRY'S ADDRESS,

AT THE FRUIT GROWERS' ASSOCIATION, BURLINGTON, IOWA,

CONTAINS the following remarks, so valuable in themselves, that we have thought it a duty to preserve them here:—

"Let us look at the list of our best foreign pears. The Bartlett is supposed to be English, originated in 1760, and it is certainly the best variety ever obtained in that country. Gunsell's Bergamot is the next best, but it is uncertain, and a poor tree while young. Dunmore, one of Knight's, stands next—a large, fine fruit, but too uncertain. These, then, are about all the English varieties admissible to our list of select sorts. White Doyenné and Brown Beurré are old French sorts, supposed to date back almost to the days of the Roman Empire.

"The Louise Bonne de Jersey originated as a chance seedling, at Longueval, in France, in 1788—originally 'Bonne de Longueval.'

"The Flemish Beauty, originally called 'Davy,' originated by chance in a Flemish village called Deftinghe.

"The Duchess d'Angouleme sprung up by accident, in a garden, in 1800. It

bore in 1819, and, the year before, the gardener had ordered it cut down, and only changed his mind after it had received several blows with the axe. The Urbaniste was raised by the Comte Coloma, in 1783.

"Beurré Diel was found on a farm, near Brussels. Doyenné Boussock is an old Belgian sort, called 'Double Philippe,' 'Beurré de Merode,' etc., origin not known.

"Belle Lucrative was one of Esperin's seedlings, one of the first and best; he called it Seigneur, the French renamed it. His method was, I believe, to sow the seeds of good pears.

"Beurré Capiamont was raised at Mons, in 1787.

"Winter Nelis, at Malines, some seventy or eighty years ago, and called Bonne de Maline; Van Mons Leon le Clere, was raised from the seed by Leon le Clere; the seeds sown were said to be Easter Beurré, Beurré d'Aremberg, and St. Germain.

"Beurré d'Aremberg was a chance seedling, at Enghein.

"Easter Beurré, known as Pastorale, Bergamotte de la Pentacole, Doyenné d'Hiver, etc., was found at Lourain, in an old garden of the Capucins—the original tree was standing in 1825.

"Glout Morceau, by M. Hardenpont, in 1789, and called to this day 'Beurré Hardenpont.' Napoleon, at Mons, in 1808. Beurré Superfin, by Goubault; Beurré Clairgeau, by a man named Clairgeau, at Nantes, in 1850 or 1851; so we might proceed with Beurré Giffard, B. Goubault, Beurré Gris de Hiver, B. Langelier, Triomphe de Jodoigne, Jalousie Fontenay Vardee, Epine Dumas, Rostizier, Vicar of Winkesfield, and, indeed, all the leading foreign varieties in our catalogues. B. Bosc, Beurré d'Anjou, and Doyenné d'Ete, are said to be seedlings of Van Mons, but the facts concerning their origin are not very clear; so that, although the world is greatly indebted to Van Mons for his devotion, through long years, to what he regarded as the regeneration of fruits, upon philosophical principles, yet his seedlings, so far, have not yielded any great treasure. The Belle Lucrative, of Esperin, is perhaps the finest pear, all in all, produced in the last century. Esperin, in it, left a noble monument to his memory, and his seedlings have produced many other fine fruits. At his death, he placed them in the hands of his friend, Mr. Berckmans, who has them now planted in New Jersey, and we are in hopes to hear from them in a few years.

"Knight's attempted improvement in England, by *hybridization*, but produced only a few good fruits. His pears, with the exception of Dunmore, which I have already mentioned, are of no value in this country. He gained the Black Eagle, Elton, and a few other good cherries. Dr. Brincklé, of Philadelphia, has attempted the same thing in this country, and has already a large number of very promising seedlings in the hands of Mr. Berckmans, for trial. They are all grafted in strong stocks, and will soon bear.

"The learned doctor has great faith in this method. He believes it to be as certain to raise a good new fruit by crossing two good ones, as it is to raise a good animal on the same principle. The art of hybridization of fruits, however, is a very nice one, and requires time, labor, and precaution, that few people can or will undertake and execute with accuracy.

"In this country, as in Europe, our new fruits have either sprung up by accident, or have been produced from the sowing of the seeds of good varieties. Thus we obtained nearly all our peaches, all our hardy grapes, most of our best plums and apples. Of pears we have already a noble list; all of them either picked up wild in hedges, or from the seeds of good pears.

"The whole of Europe has not produced a pear so fine as the Seckel, nor one which succeeds over a wider territory; and then we have the Brandywine,

Tyson, Sheldon, Howell, Lawrence, Onondaga, and many others nearly as good as these. There are, at this moment, many thousands of seedlings from our best fruits on trial, and we may reasonably anticipate some important acquisitions. Indeed, I believe that before the end of the present century, our best pears, as well as our apples, will be those originated on our own soil. The facts which I have stated concerning the origin of our best fruits, both native and foreign, hold out great encouragement for the prosecution of this work. My advice to you, here in the West, is to sow every good seed you can get. I mean the seeds of those fruits which succeed best here. When your seedlings have made one season's growth, you can bud or graft the most promising on strong stocks or bearing trees, and test them in three or four years.

"For several years we have been sowing in this way, and if we get one good one in five hundred, we shall feel satisfied; we may get twenty. The interest and excitement which the work awakens, is no mean recompense in itself.

"No other fact connected with fruit culture is more fully substantiated by every day's experience than this, viz: To insure successful cultivation, we must have varieties that are adapted to the peculiarities of our soil and climate. Many of your most valuable apples for this country prove utterly worthless with us, whilst many of our best fruits fail entirely with you. This Society, and others of a similar character, are collecting information on this head, of the highest value.

"The fact is well established, that the fruits which succeed best in particular localities are those which originate there, or in others slightly different. I believe the *Baldwin*, *Hubbardson's Nonsuch*, and *Porter* apples, are nowhere quite so good as in New England. The *Newtown Pippin*, *Swaar*, *Esopus*, *Spitzenburg*, and *Northern Spy*, are scarcely anywhere so good as in New York. Our northern apples are of little value in the south, and the very finest southern apples are utterly worthless in the north. The reason why those seedling fruits obtained in certain localities are more successful there than elsewhere, cannot be that the climate and soil exercise such an influence upon the seed or the seedling, but because, when the seedlings show fruit, those only are preserved which possess qualities that are desirable there. The *R. I. Greening* would not have been preserved in Georgia, nor the *Rawles Janet* in Massachusetts. The true way to advance in this matter will be for the cultivators of each district to sow the seeds of those varieties which succeed best, or which possess the most important qualities. Every successive generation will be more and more acclimated, and thus, in time, fruits will be obtained capable of resisting all the changes and severities of climate, and peculiarities of soil.

"In the hurry of our first planting, this experimental culture has been neglected, but it is now high time that it should be taken up in earnest. It may be said that our varieties are already numerous enough, and so they are; indeed, we have far too many, but who will say that even the *best* are *good* enough, or that improvement is not necessary or desirable? No, indeed; the work of improvement has scarcely begun.

"The reform which has, within a very few years, been effected in the nomenclature of fruits, is not the least important part of our progress. What a labyrinth of error and confusion the names of fruits were in, some dozen years ago. Not more than seven years ago, full one-half of all the fruits exhibited were incorrectly named, or not named at all. The specimen trees which we collected between 1839 and 1843, were full one-half incorrect, and they were obtained from the most reliable sources then in existence. Of thirty or forty specimen peach-trees from one establishment, scarcely one proved true to name.

"In the course of my business as nurseryman, and during my connection with

horticultural journals, I have often been surprised, of late, at the number of persons who are particular and discriminating.

"One man writes, on reception of some trees he has purchased, such and such a variety has dark shoots—the books say they ought to be light. Another says the habit, or the foliage, or the flowers, of his trees do not answer the description. A third says his strawberries are staminate—they ought to be pistillate; and so on. These are all indications of that spirit of inquiry and observation which is a sure presage of intelligent and successful culture. The time has come when nurserymen must be observing and accurate, or they will lose their business character and customers both. They must plant specimen orchards, test and compare their varieties, read and study, attend exhibitions and meetings, such as this, and by these means acquire such knowledge of their profession as will enable them to prosecute it successfully and honorably. The facilities which dwarf trees now offer for testing a large collection rapidly, on a small plat of ground, and at a moderate expense, leave no excuse whatever for the neglect of this work.

"The cultivation and management of trees in orchards and gardens are improving rapidly, but much yet remains to be done before we attain even mediocrity. The loss which the United States sustain annually in the careless and unskilful planting and management of trees, if accurately summed up, would be almost incredible.

"At the Fruit Growers' Meeting in Western New York, a few days ago, the question was raised: What becomes of all the trees that are propagated and sold in the nurseries of that section?

"The opinion of the meeting, as expressed in the discussion, was, that although many trees were lost and worthless from defective or improper treatment in the nursery, and many from damage sustained in transportation, yet more were lost by unskilful planting, and neglect afterwards, than from any and all other causes combined.

"This I believe to be the case. In all my observations of travel, I think I can safely say that I have not seen one orchard or one garden in a hundred even tolerably managed. By far the greater number look as though the proprietor had abandoned his trees to ruin.

"Blown over to one side, anchored in a tough grass sod, buried up in groves of cornstalks, torn and broken by cattle, barked and bruised with the plough, pruned with an axe—thus they perish in their youth, or become old, deformed, covered with lichens, and a prey to swarms of insects, before they have yielded their first fruits. What folly it is in men to invest their money in trees, and then wilfully ruin them in this way! In Western New York, where cultivation is about as good as in any other section, a man who cultivates his orchard or his garden thoroughly, whose trees are healthy and handsome, making vigorous growth, and yielding fine fruit, is talked of as a rarity—and so he is.

"The specimen trees in the establishment with which I am connected, are but tolerably well managed; the ground is kept clean around them, and is occasionally dressed with manure or compost; so that, in all seasons, we get a fair growth and a fair crop—but amateurs might have theirs vastly better. Yet we are daily asked what we do to our trees? and many seem to think that we have some secret art—some system of 'terra-culture'—with which the world at large is unacquainted.

"We need a complete revolution in these matters. I cannot now detain you to go into the details of planting, and pruning, and mulching; but I beg you who understand these matters, to constitute yourselves missionaries, and preach this doctrine of high cultivation zealously in your respective parishes, and give examples of it in your own grounds, that your practice may correspond with your precept."

CRITIQUE ON THE JUNE HORTICULTURIST.

Gentleman Farming.—Very pleasant to talk about—that is, to those who know nothing at all about farming, either “gentlemanly” or vulgarly. After exhausting “Lorain,” read the “Sparrowgrass Papers.” I have witnessed sundry editions of gentlemanly farming which didn’t last a great while, and ending either in disgust, with a summary throwing-up of the occupation, or toning down into a practical, positive reality, like any other business in which a man proposed to make an honest livelihood.

Wonderful ideas many people have of the profession of farming! A deal of poetry and imagination, into which are intermingled Sylphs and Dryads; Phylisses and Damons; shepherds’ crooks, cottage girls, and country swains; innocent birds, bleating lambs, and various other romantic dreamings. But it is wonderful to find how soon these delectable images of agricultural bliss become spirited away on the trial. If a man have fifty thousand dollars well invested, on which he can draw punctual semi-annual dividends at six or eight per cent., then put himself and family on to a farm, well conditioned in all particulars, and children well-behaved, and not over-extravagant in their notions, and, moreover, a *good ways out of town*, he may, possibly, with a good deal of hard and vexatious labor, bring the year about at “gentleman farming.” Otherwise, like the cobbler, he had “better stick to his last.”

Why don’t we hear of gentleman printers, gentleman merchants, gentleman doctors, gentleman editors, and gentleman everything else in the professional and business pursuits of life? Simply because every profession or calling in the world which amounts to anything, and by which men get their living, is followed in earnest, and those who engage in them, lay their whole talents and labors into the work, whatever it be. The great, popular mistake of those who talk of *gentlemanly* farming is, that they suppose the *practical* farmer to be a boor, of necessity, and that his calling is a vulgar one, unfit for an educated mind; yet, when sublimated by intelligence, education, and refined associations, *may* be made respectable! “Gentleman farming” is a rank humbug, as any other profession or trade would be, followed in the same fashion—that is, by hanging out a sign, furnishing the shop, store, office, or other establishment, with its stock in trade, library, or what not, and then leaving the students, clerks, and shop-boys to take care of it, while the principal goes about the streets, talking politics, spending his daylight at the bar-room, sucking down brandy-smashes and mint juleps, or fooling away his time in any other nonsense. That is the “gentleman” way of doing any sort of business, “farming,” or otherwise. The upshot of the matter is, a man may be a gentleman in any calling which demands the exercise of brains, ingenuity, and industry. I never yet knew a useful profession which demanded low intellect or clownish manners as a qualification for its pursuit.

Biota Orientalis, and other items, pp. 252–255.—I don’t know anything about them.

Carriage-House and Stable for a Small Cottage.—A capital plan. The floor accommodations cannot be bettered; yet, if the roof were steeper, and, instead of being hipped, gables were run up at each end, the hay-loft would have twice the room in it, and cost no more than the plan now given. Builders of such things should always recollect that half the beauty connected with them is their *utility* for the purposes to which they are designed.

Flowers, and Botanical Notes.—“A thing of beauty is a joy forever,” said poor young Keats, who would have stayed in this troublesome world to the present day,

could his admirers have had their own short-sighted way about it. A group of wild flowers—and they are always beautiful—in the hands of a laughing, innocent girl—no matter about her age—where a dozen such are rambling over the grass, or among the trees, always draws the sunny side of my heart into their very midst, from the hopeful days of boyhood even to yesterday, when a score of the happy, wayward things made fearful havoc through the tall grass in my lawn, and among my snowballs, honeysuckles, and peonies; it was lucky the tulips were *passé*, for every one would have been beheaded. One-half the every-day charm of woman is, her love of, and attention to, flowers in their season; and all parents, having the opportunity, who neglect to educate their daughters in the knowledge and care of flowers, leave out one of the elements of education, which makes them better children, better wives, better mothers—indeed, better everything belonging to the gentler nature of woman.

A Few Remarks on Late Grape Crops.—I like William Chorlton, and his way of growing grapes, and talking about them. A sensible, practical man, with no nonsense about him. Read Chorlton, wherever you find his mark. If you grow grapes, you'll be all the wiser for it; and if you don't, it will interest you.

Protection to Farms.—Very well said by Mr. Charles Downing; but, for my part, I prefer a farm where tree protection comes by nature. For those who have pitched their homes on the wide Western prairies, his suggestions are valuable. I could talk somewhat on that subject myself, but Mr. Downing has said quite enough to set ten thousand tree planters at work for the next twenty years.

The Strawberry Seedling.—A delightful story. "The Elder," Emile may be, but that imagination, so full of simple narrative, poetry, and refinement, can never be "old." The "Clover Hill Seedling!"—a charming name for a new strawberry! A good, Christian man, too, is "Emile the Elder," as his "moral" testifies. What a poor, heartless race of men we should be, in the absence of such gentle spirits to guide us in our daily paths, and restrain us within the exercise of the humanities of life! Let us, most rare "Emile," again hear your genial conversation.

Michigan Agricultural Society.—Those annual volumes of *Transactions* which issue from the various State societies of our country, are most gratifying evidences of the advancement of American agriculture. They commenced, long years ago, in Pennsylvania, Massachusetts, and, now and then, in other States; yet, after awhile, from the want of systematic action, gradually died out. In 1842, New York adopted a vigorous, well devised plan of publishing the annual transactions of its agricultural societies, which it still keeps up, to its great advantage; and its example has been followed by sundry other States, until such States as don't do it, have not much celebrity in agricultural spirit and improvement.

Why is it that the newer States, like Ohio, Michigan, Illinois, and, perhaps, another one or two, are so far in advance of some of the older ones in such enterprises? I trust that these "old fogies" are not to be gathered up among the fossil remains of our agricultural enterprise. Their worn and stubborn soils still yield kindly fruits and harvests when properly tilled, and it only needs the active minds of their young farmers to put them *rectus in curia*, as the lawyers say, by the side of their younger brethren.

Colombian Guano.—"Eighty per cent. of the phosphate of lime!" Is that so? and "five millions of tons!" Well, that will do—for awhile, at least. "A Philadelphia Company," the owners, too, of all this fertilizing wealth! What is the stock worth, Mr. Editor? We must look into this matter, and if it be "true to the card," somebody must make a heap of money out of those odoriferous heaps in question. I think, however, I'll look on and see how the guano works for a year or two, before I invest in it.

JEFFREYS.

SPRING MOVING.

BY EMILE THE ELDER, PHILADELPHIA.

THE bustling commercial people of New York City have established the 1st of May as an annual period for removals among its inhabitants, and we have sometimes taken the liberty to doubt the wisdom or convenience of this fixed periodical exchange of residences. The natural increased demand for carts and furniture-cars, and consequent higher tax upon horseflesh and men, and on the purses of those in competition, furnish no bad argument against a *single* period for all movings, instead of permitting them to occur at any time throughout the year. We can scarcely imagine a good reason in favor of the New York custom, and hence rejoice that the "spring moving" we are about to tell of is of a different description, and where the proper period is fixed by the unerring laws of nature, at the first swelling of spring buds in the month of April.

Our good family doctor, and whom we may be proud to call friend, could not content himself with the mere performance of professional duties; and yet, in a considerable practice, no physician was ever known to labor more arduously and punctually, or more unsparingly of himself. His benevolent heart was not satisfied with curing disease in man, and relieving sufferings through the performance of professional duty; he had the generous ambition to do good to all mankind—to bestow something philanthropically upon his race, and without remuneration, except in the consciousness of being useful. He found hours of leisure in the early morning, which he could devote to plants and trees in his yard, and, with an enthusiastic love of science, his knowledge of botany was readily followed by investigations in pomology and horticulture.

The narrow strip of ground, about sixteen inches wide, that lies beside the division fence between city plots having the usual back buildings, had for many years been the limited field of the doctor's experiments in horticulture, and, more especially, perhaps, in pomology. This little strip of ground, unfortunately, too, had a northern exposure, and yet, 'spite of stinted space and all other difficulties, the "garden" of the doctor presented a rare and extraordinary display of fruit, of various kinds, in season. We cannot be very precise in details, but to convey some idea of this fruit orchard in his town-yard, we inform the reader that it contained one goodly size seedling apple-tree, the seed planted by the doctor fifteen years previously, and for the first fruiting of which he still patiently waits; then there were ten pear-trees, dwarfs and standards, upon which were grafted about seventy-five varieties—many that have already borne fruit, and others as yet only giving promise; one large and thrifty high-bush blackberry, that has produced a great crop of large and beautiful fruit. Six or eight varieties of seedling and fine raspberries, mostly of his own creating, and that have already become celebrated for their high qualities.

Besides these plants in the ground, the yard contained over eighty boxes, filled with living trees or shrubs, grafted young trees and seedlings, to say nothing of smaller pots in great numbers, a Chinese peach-tree, the Salmon Berry, or *California Raspberry*, &c. &c. All these, forming the basis of numerous experiments, have from year to year accumulated, and now filled the doctor's small premises, almost to the exclusion of a reasonable passage-way through it.

Such was the state of things in the spring of 1856, when the health of members of the family induced a plan of removal to the country—at least, for two or three years—the doctor remaining in the city, devoted as usual to his profession. With this scheme came the necessity of relinquishing the ample city residence, and procuring offices for the doctor; and also came a necessity of providing a new home for the trees, and plants, and boxes. Here was a sad dilemma: one in which the good pomologist was scarcely less concerned for

the well-being and prosperity of his favorite and long-watched trees, than the good man was anxious for the comfort and happiness of his family. The mute but grateful objects of his scientific care, all unconscious of domestic changes in contemplation, were still uninfluenced by the late spring, while the doctor from time to time, among friends, referred sadly to his difficulty of parting with his trees, &c.: he could readily send them to the country, and have them in good care, but then he would be deprived the pleasure of seeing them daily, and of prosecuting his experiments—of patiently watching the fruit buds each spring as they slowly developed, and gave hope of a new variety—a seedling, perchance, that would deserve a name and high rank in the calendar of American pomology. It is but justice to say here, that such would be no new event in the useful life of our medical pomologist, as is testified by his seedling raspberries and strawberries, the “French,” the “Cushing,” the “Orange,” the “Wilder,” &c. &c. &c.

Among those whose privilege it is to hear the good practitioner let out the simple wishes of his heart, there was one who early thought to offer the use of his goodly-sized garden for the reception of the favorite trees and plants; the proffer was unexpected, and though very agreeable, was accepted with great hesitation. There was evidently a modest, delicate doubt in the mind of the doctor, as to how he could have free access to the garden of his friends, and, no less, how far it was consistent to accept what he regarded as a rare favor. But these impediments were soon removed, and the proposal was definitely agreed upon long before the proper period had arrived for the “spring moving.”

The accepted city yard possessed some advantages of space and exposure over that in which the doctor's nursery had thus far struggled into existence, but with increased dimensions, and a fine southern exposure, there also came drawbacks. A very large locust-tree had long-standing possession of one end of the ground; its far reaching roots, and overshadowing branches, were no friends to the health of fruit-trees, and a considerable grapevine arbor occupied room at the other end. In their leafless condition, at the period of the friendly arrangement, but little heed or thought was taken of these impediments to an act of intended kindness, certainly not by the owner of the premises, at least, and a delicate sense of propriety would not permit the subject to come from the doctor. But, when the time of tree moving was near at hand, a mutual friend, listening to the design, impulsively exclaimed: “Oh, if that big locust was only out of the way, no spot could be more suitable!” It was not difficult to read in his countenance the sympathetic thought passing through the mind of the doctor, and though little else was said, the question of cutting down the locust-tree at once seriously occupied the thoughts of its owner. And this was no light subject for consideration; the old tree had its peculiar history, and one which deserves to be told here, if the patient reader will permit such an episode.

The city lot, now the scene of our story, had been purchased and built upon, many years before, by a Scotch gentleman—afterward a Unitarian clergyman—who, faithful to cherished associations, planted in his yard a young locust-tree sent him by a friend. When the growth of years had made his tree of goodly size, a severe winter storm came upon it with such unfortunate violence as to separate its forked trunk through the centre, and to the very earth, each half falling in an opposite direction, and making sad havoc with the dividing fences of neighbors. The storm over, our Scotchman sought such aid as was required with strong ropes, to bring the split divisions of the trunk together, and, as in surgery, the edges of the wound being closely in contact, a strong bandage was needed to keep them so; a hoop or band of iron was soon prepared, and, with the blacksmith in lieu of the surgeon, the iron bandage was applied three or four feet above the ground, and the locust-tree was again upright and firm. Thus it prospered for a few years, until the injury to the bark by the iron band, gave symptoms of general disease in the tree; the bandage was in consequence removed, and placed about three feet higher, and again the locust flourished for some years.

But, at a later date, when the old Unitarian clergyman had sold his property, and told the history of his tree with garrulous fondness, again the iron girdle was doing evident mischief: but the story of the tree, beside its beauty, gave it value and interest to the new owner, and with perhaps better mechanical conception, he sought a new remedy for the evil. A straight iron rod, having a head at one end, and a screw upon the other, was now passed horizontally through the centre of each trunk, and, by means of an iron nut on the screw end, the security of the tree was accomplished without injury. The bark in time grew over the ends of the iron rod, and for nineteen years the locust-tree had flourished, at the period of the intended coming of the doctor's fruit-trees and plants. Sympathy with the past, and even with the far-famed ballad of George P. Morris, "Woodman, spare that Tree," came into conflict with the claims of the doctor, with the desire to gratify a valuable and excellent man: it was April, the time for tree moving had arrived, and when the medical pomologist came to make his next friendly visit, the old locust-tree lay in sections upon the grass plat.

It is now scarce a month since this city clearing, and the seedling pears, with their many grays, the raspberries of different varieties, &c. &c., gratefully occupy the space so long monopolized, if not hallowed, by the Scotch gentleman's gift of friendship. And with early sunrise, may be seen daily from the back windows, the doctor inspecting and enjoying the new nursery, thus renewing the sentiment associated with the first planting there, and certainly no less valuable or interesting to a warm and honest friendship.*

* May 1, 1856.—We cannot resist the desire to give value to our little narrative, by adding an article from the gifted pen of a mutual friend, and which has reference to the same distinguished pomologist. We quote from the columns of the *North American and United States Gazette* of July 20, 1847. So just and eloquent a tribute to merit deserves a more enduring form than that afforded by the passing sheet of a daily newspaper.

The Love of the Beautiful and Useful.

There is a class of human beings—its name is legion—who are good and benevolent to an infinite degree, in theory. They would perform wonders if they had the power; but their vast ambition to pursue the ideal beautiful and good, cannot stoop to any of the achievements within their own contracted sphere. Their imaginative benevolence travels over boundless fields of usefulness; they endow, with unearned wealth, hospitals in the air; indulge their vanity in erecting colleges upon vast foundations of imagination; gather fruits that require no culture; rejoice over ores that are not dug from the mines; and are good and great, in their own estimation, upon this aerial principle. These men are loud in their lip-love of all that is good and great; but, because they cannot enjoy the princely advantages required to carry out their magnificent schemes, they do nothing. There are others to whom no opportunity to do good, or cultivate a grace, is lost—who would be useful to their race even in a dungeon, and would discover some beauty upon a barren rock in the ocean. We were impressed with this truth, by becoming casually acquainted with the secret pursuits of one of our most estimable and enlightened citizens, in the fragmentary periods of leisure that fall off from a life of intense and persevering professional labor. His life has been devoted, day and night, to the studies and duties of his science; and no one would dream that Dr. ——— had leisure for any thought or purpose beyond it. But who has not leisure that practises economy of time, and learns to relieve one species of labor by another of a different character, all swelling the amount of his tribute of good to the Author of all good? In the midst of a most active life, and in the centre of a crowded city, he has been for years engaged in practical experiments in horticulture, and has succeeded in attaining results that contribute more to the race than the best fought battle-field of the age. Of course, it will be supposed that he has a large space of ground for these experiments, and every aid that can further them; but, on the contrary, his garden lot is twenty by twenty feet, on the most fashionable square in Chestnut Street. Within that limited space, and in the midst of a large practice, he has still found time and means to make the most important contributions to the horticulture of the country. By the application of science to the culture of most valuable plants, he has been enabled to add new and rich varieties; to discover and illustrate important laws, and to effect, in the oftcast minutes which others fail to improve, results that will make millions more happy, when his career of graceful, modest, and untiring goodness and usefulness shall have been closed.

We dare not refer to him in such a manner that even he may discover the allusion; and we mention the fact with the sole purpose of illustrating the truth, that there is no sphere so crowded that it has not room for a new light, a new grace, a fresh achievement for the good, a novel enjoyment for the lovers of nature. The possessors of thousands of acres might envy, and must admire, the student who, in his 'twenty by twenty lot, finds noble resources of enjoyment, and attains results which add to the comforts and happiness of his race.

CLIMATOLOGY, NO. 3.

BY A CONSTANT READER.

THE summer climate of the United States is remarkable in many respects. The mean temperature of its southern portion exceeds that of the tropical region to the south of it. The Isothermal line, or Isothere (that is, the line of equal summer temperature) of 80° , follows the coast of the Gulf of Mexico and the Atlantic, from the southern point of Texas to that of North Carolina. It then, in latitude 34° , sweeps round to the W. and S. W., bending very gradually to the N., till, in the N. E. part of Texas, it again approaches latitude 34° . It is then bent to the S. by the high table-lands of Texas, crosses the Pecos in latitude $29\frac{1}{2}$, and sweeps to the N. W., till, in the neighborhood of Lake Humboldt, it reaches the parallel of 40° ; and is then bent suddenly round by the Sierra Nevada Mountains, and sweeps S. S. E. along the eastern coast of the Californian Peninsula.

The space within the Isothere thus described, includes one of the hottest regions of the globe. Its focus is the district from the head of the Gulf of California to the mouth of the Gila, where the mean summer heat is 90° , while that of the West India Islands is $81\frac{1}{2}$. West of the Sierra Nevada, along the valley of the San Joaquin, is another district of intense summer heat, the mean of the thermometer at Fort Miller in that valley being 85° . This belt of intensely heated country follows the southern line of the coast along the Gulf, and is limited in the interior by the Mexican table-lands, which extend to lat. 30° , and of which the height is six or eight thousand feet, and the mean summer heat is 68° . Within this hot belt the mean heat ranges from 82° to 85° . The influences of this intense heat are modified by the moisture or dryness of the climate.

In the southern part of the Peninsula of Florida, twenty-five inches of rain fall in the three summer months; twenty-two inches fall in the rest of the peninsula; twenty inches in the remaining region east of the Mississippi. Through Eastern Texas the summer rains average twelve inches, gradually lessening to ten and eight inches at the W. and S. W. Three inches fall along the valley of the Rio Grande; one and a half inches on the Gila, and the prolonged point of the belt to the N. W., traverses the rainless desert of Utah.

We have, then, in our southern borders, an extensive range of summer tropical climate, capable, in its eastern portion, of maturing all the annual fruits and plants of the hottest regions of the globe; and, wherever it can be irrigated in its western portion, susceptible of the highest fertility; for the Basaltic rocks of that region disintegrate into one of the most genial of soils, which will, at some future day, when science shall direct the industry of its people, rival the ancient fertility of the new desert valleys of Persia and Syria, and "blossom like the rose." It is highly favorable to the future prospects of these sterile regions, that the summer rains on the mountains are copious and frequent; so that, by damming up the ravines and mountain valleys, artificial lakes may be formed for the irrigation of the sub-jacent districts.

The adaptation of this hot belt to the cultivation of tropical trees, is controlled by its winter climate. The Isocheimal line, or Isocheim (the line of mean winter temperature) of 65° , passes through the peninsula in latitude 27° , say 120 miles from the cape. South of that line, it is probable that neither ice nor frost is ever known, and that the Clove-tree, the Pimenta, the Date Palm, the Coffee-tree, and the Cacao, would thrive luxuriantly. The Isocheim of 60° passes across the peninsula at St. Augustine, and enters Texas in latitude 27° . South of that line, the olive, the fig, the orange, and the lemon, would flourish.

The Isocheim of 55° crosses the mouth of the St. Johns, and passes along the northern shore of the Gulf to Matagorda, thence W. and W. N. W. to the mouth of the Gila. South of this line, winter frosts occasionally occur, and cut off the orange-trees of Northern Florida.

The extreme N. W. point of the hot district under survey, has a mean winter heat of 35° ; for the Isothere of 83° , and the Isocheim of 35° , nearly touch each other at Lake Humboldt, in Utah. It is only, therefore, in the southeastern part of this district that the cultivation of the intertropical fruit-trees can be successful.

It is true that there may be spots found in the interior protected from the cold winter winds, and from frosts, where the hardier trees of the tropics, especially of the hills and table-lands, such as the cinchonas, may be introduced.

If the winter and summer climates of the district round Humboldt's Lake be thus strongly contrasted, the summer climates of the coast, and of the mountain valleys of California, are equally so. The Isothere of Fort Miller, on the San Joaquin, is 85° , and that of Monterey, 150 miles to the west, is 57° !

The summer mean of the Pacific coast does not vary from 57° , between Monterey and Sitka, a space of 22° of latitude, and near two thousand miles of coast.

This extraordinary fact is no doubt caused by the cold waters of the Pacific Ocean. Although there is no steady superficial polar current to be traced near the shore, it would seem that such a current prevails in the deep sea beyond, and that the cold waters, as they approach the land, are forced upwards by the shelving of the bottom.

There is at all times a belt of cold sea-water, of the temperature of 57° to 60° , along the northwestern coast of America, extending many hundred miles out to sea, which controls the climate of the coast, and almost equalizes the temperature of the four seasons!

A similar but narrow belt of cold water borders the Atlantic coast, inside of the Gulf Stream, which, though it does not influence the summer climate, is distinctly felt in the cool northeast winds which sometimes prevail with a clear sky for weeks during spring and early summer.

The Isothere of 75° passes through the Bermuda Islands in latitude 32° , and strikes our coast in latitude $39\frac{1}{2}^{\circ}$. It is bent to the S. W., by the Virginia Mountains, to the parallel of 34° , along the northern line of North Carolina and Tennessee. West of the Alleghanies it again bends to the N., and then to the W., crosses the Mississippi in latitude 39° , near the mouth of the Illinois, and continues west to longitude 103° . It is then deflected to the S., by the Rocky Mountains, to latitude 32° , in the valley of the Rio Grande. It then bends again to the N. W., strikes the Great Salt Lake—the Lake Timpinagos of Humboldt—passes W. in latitude $41\frac{1}{2}^{\circ}$, till it is again bent S. by the cold atmosphere of the Pacific coast, and strikes that coast in latitude 26° .

The Isothere of 70° crosses the Hudson at West Point, touches the parallel of 40° in Western Pennsylvania, passes through Sandusky and Chicago, thence N. W. to Fort Snelling, crosses the Missouri near Fort Union, reaches the parallel of 49° , and is then bent to the E. of S., by the Rocky Mountains, till it reaches latitude 35° , in the valley of the Rio Grande. West of the Rocky Mountains it bends to the north, and reaches the parallel of $47\frac{1}{2}^{\circ}$ in longitude 118° . It then bends suddenly to the south, and strikes the coast in latitude 34° .

"There is a great identity," says the report, "of the temperatures of this large area, embraced by the Isothermals (*Isotheres*) of 70° and 75° east of the plain, including Iowa, Illinois, Indiana, Ohio, Kentucky, Upper Tennessee, Virginia, Maryland, Delaware, Lower Pennsylvania, and New Jersey, excepting from these some points of coast exposure, and of the mountainous districts, the summer temperatures are more nearly uniform than almost any continental area of like magnitude."



ON THE UNION OF EMBRYOS.

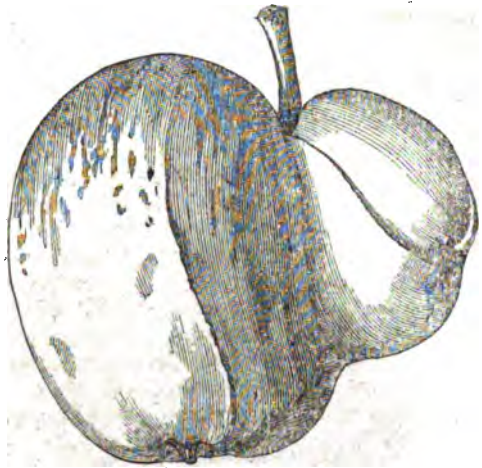
FROM THE GARDENERS' CHRONICLE.

It will have been seen by a communication in our last number, that experimentalists are puzzled to understand how it is possible to make two embryos grow together by grafting. It seems to be considered impracticable so to unite the seeds of an orange and a lemon as to blend them into one single plant from the very beginning of their growth. Undoubtedly, the operation is attended with some difficulty. Skill, and a sound knowledge of the nature and structure of seeds, are demanded of those who would perform it. For that reason, indeed, it was, that we offered a valuable reward to the first who should succeed. Had it been a mere puzzle, which could be solved by some lucky accident, we should have consigned it to the limbo of rebuses, charades, and similar puerilities. But knowledge and the power of applying it were demanded, and for this reason it appeared to be an excellent subject for experiment; certainly not merely for the sake of a trifacial orange, which might be easily obtained in Alexandria.

We have already stated, in reply to an inquirer, that it would probably facilitate the operation if the surfaces to be united are pared down, just as is done when common grafts are united. But we are by no means sure that this is indispensable. On the contrary, many facts indicate that mere contact will produce the necessary union. No one can be ignorant that cucumbers often come as twins; so do nectarines; and we have now before us a pair of Coe's Golden Drop Plums completely united for about half their length. In all such cases, no removal of the surface of the parts took place where they joined. They united in consequence of being firmly pressed together when very young, and in the early stage of growth, while the tissues were young, tender, and forming fast.

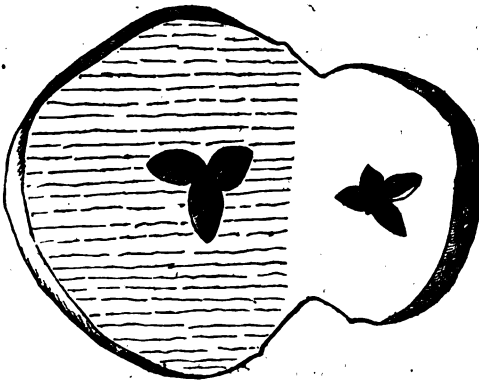
A similar example is presented by the monstrous apple of which a figure is annexed. In this instance, two apple flowers, accidentally brought into close contact in the earliest state of the bud, being kept firmly in contact as they advanced in growth, ended by becoming half incorporated; notwithstanding which, they finally became a twin fruit, consisting of two very unequal halves. In the smaller only four cells of the seed were formed; in the larger, but three. In other respects the structure was complete; but each was furnished with a pair of elevated lines on the side next the line of junction, as shown in the figure. The nature of these lines is unknown to us. What is particularly deserving of attention here is, that the hairy surface of the young apple flower offered no obstacle to the junction in question; possibly it took place before the hairs had formed.

Such being the case, it becomes a question whether, in grafting seeds, it is at all necessary that the embryos should themselves unite. It may be indeed conceived that the firm, solid, highly carbonized, and scarcely azotized tissue of which such an embryo as that of the orange consists, would, from its very nature, be unlikely to form an adhesion; just, indeed, as



grafters find that old wood is very difficult to operate upon. It is by the young tissue, when first growing, soft, tender, succulent, and rich in azotized matter, that junctions are effected. Is it not, then, highly probable, that if embryos are to be grafted on each other, the union must take place between the surfaces of the young radicle and the tender lengthening stem when first born? We think so. And upon that supposition, it may be a question whether the operation now under discussion may not be most easily and certainly performed by allowing the embryos to enter upon the early stage of germination before they are finally tied together.

Suppose a couple of orange pips were allowed to grow just long enough to be handled, and then had, in each case, one of the cotyledons removed, so that the nascent stems could be secured to each other with collodion, or a film of India-rubber, or some such elastic matter. We only throw this out as a suggestion.



EDITORS TABLE

EXCHANGES.—Those periodicals with which we exchange, as well as letters for the Editor, should be directed to the *Horticulturist*, Germantown, Pa.

NATIONAL AGRICULTURAL SOCIETY.—The following are the premiums for fruit and wines, to be awarded at the National Exhibition of the United States Agricultural Society, to be held in Philadelphia the 7th, 8th, 9th, 10th, and 11th of October next. The whole of the premiums amount to fourteen thousand dollars. We shall have a show which will attract a larger audience than any heretofore held in our consolidated city:—

CLASS VII. FRUITS.—All fruits must be arranged on the tables by 9 o'clock, of Tuesday morning.

All fruits offered in competition must be grown by the competitor.

Fruits receiving a premium in one class cannot compete in another.

Judges may withhold premiums when fruits of sufficient merit are not presented.

Fruits once placed on the tables are under the control of the judges, and cannot be removed until the close of the Exhibition.

Exhibitors must present to the Secretary a list of the fruit exhibited, with the names of the fruit, and a certificate, when required, *that the same was grown by the exhibitor.*

APPLES.—For the largest and best exhibition of named varieties, not less than three specimens of each, \$50; for the second best, \$30; for the third best, \$20.

For the best thirty varieties, not less than six specimens each, \$30; for the second best, \$20; for the third best, \$10.

For the best twelve varieties, not less than six specimens each, \$15; for the second best, \$10; for the third best, \$5.

For the best dish of apples, of one variety, \$5; for the second best, \$4; for the third best, \$3; for the fourth best, \$2.

PEARS.—For the largest and best exhibition of named varieties, not less than three specimens of each, \$50; for the second best, \$30; for the third best, \$20.

For the best thirty varieties, of six specimens each, \$30; for the second best, \$20; for the third best, \$15.

For the best twelve varieties, six specimens each, \$15; for the second best, \$10; for the third, \$5.

For the best dish of pears, of one variety, \$5; for the second best, \$4; for the third best, \$3; for the fourth best, \$2.

PEACHES.—For the best collection of peaches, \$15; for the second best, \$10; for the third best, \$5.

For the best dish, not less than twelve specimens of one variety, \$5; for the second best, \$3.

QUINCE.—For the best bushel, \$5; for the second best, \$3.

GRAPE.—For the best native or seedling grape, hardy, and equal or superior to the Isabella, a premium of \$20; second best, \$10.

For the best display of Isabella grapes, not less than twelve bunches, \$10; for the second best, \$5.

For the best display of Catawba grapes, not less than twelve bunches, \$10; for the second best, \$5.

For the best display of native grapes, \$15; for the second best, \$10.

For the best display of foreign grapes, \$15; for the second best, \$10.

Special premiums will be awarded on melons, plums, and other fruits not enumerated, if creditable specimens are presented.

CLASS VIII. NATIVE WINES.—For the best dry Catawba, 1855, \$10; for the second best do., 1855, \$5.

For the best dry Catawba (older), \$10; for the second best do., do., \$5.

For the best wine from the Herbemont Grape, \$10; for the second best from do., \$5.

For the best wine from the Schuylkill or Cape, \$10; for the second best from do., \$5.

For the best wine from Isabella Grape, \$10; for the second best from do., \$5.

For the best wine from any other grape, \$10; for the second best from do., \$5.

For the best sparkling Catawba wine, \$10; for the second best do., \$5.

For the best sparkling wine from any other grape, \$10; for the second best do., from do., \$5.

With Mr. Wilder to carry out the grand programme of this National Exhibition, no one doubts of eminent success.

Gossip.—Pyramus, a resident of Babylon, became enamored of Thisbe. Their parents forbade marriage, but the lovers interchanged sentiments through the aperture of a wall. They agreed to meet at a given time at the tomb of Ninus, which was overshadowed by a mulberry-tree. Thisbe, first to come, was frightened by a lioness; as she fled, she dropped her veil, which the lioness left covered with blood. The lover soon arrived, and seeing Thisbe's bloody veil, concluded she had been torn to pieces by wild beasts, and instantly stabbed himself. When Thisbe returned, and saw the dying Pyramus, she, too, fell upon the sword, and the mulberry-tree was stained with the blood of the lovers, and ever afterwards bore fruit of that color. Think of it, when you eat mulberries!—The leaves of the olive-tree are not green; they resemble those of a hedge covered with dust. "I am like a green olive-tree in the house of God," should be translated *vigorous*. It is, notwithstanding, a lovely tree in an arid climate, and a favorite haunt for singing birds, having a thin shade, sufficient to shelter them from excessive heat, yet not excluding much light. The leaves resemble somewhat those of a willow, and the plant is classed among evergreens.—The superstitious ceremonies and histories belonging to some vegetables, have been not less surprising than ludicrous; the Druids are said to have cropped the mistletoe with a golden sickle, and the bryony was said to utter a scream when its root was drawn from the ground; the animal that drew became diseased, and died; on which account, when it was wanted for medicine, it was usual to loosen and remove the earth, and then, to tie it by a cord to a dog's tail, who was whipped to pull it up, and was then supposed to suffer for the impiety of the action. More recently, bits of the dried root of bryony were rubbed smooth, and strung, and sold under the name of anodyne necklaces, to facilitate the growth of children's teeth; we have met lately with people of education who believed and practised carrying a horse-chestnut in each coat-tail pocket, as a remedial agent!—In Gerard's *Herball*, printed in 1633, he says: "Wine made of the juice of pears, being taken in small quantities, comforteth and warmeth the stomach, and causeth good digestion." Of a certain Parson Bodnorne's apples, is this quaint remark: "The hogs are fed with the fallings of them, which are so many, that they make choice of those apples that they do eat, who will not taste of any but the best. An example, doubtless, to be followed of gentlemen who have lands and livings."—One of the processes employed by the Chinese and Japanese for dwarfing their little, stunted, specimen trees, is, as soon as they have germinated, to smear them with fluid honey, or dissolved sugar; they keep them in a little box, with a small glass for light, and intro-

duce a nest of ants, whose eggs soon hatch and produce an active colony, greedy of sugar, and incessantly running over the plants. The everlasting play of these insects keeps up a peculiar excitement, which ends by producing the state of dwarfness so much admired by the fashion of that part of the world. They will sometimes show you a fir-tree, in perfect health, three inches high. After the late Chinese war, some *magnificently* small trees were sent as a present to Queen Victoria; Sir Wm. Hooker examined them, and found their roots shackled in every conceivable way with wires, to *promote* their dwarf habit.—One of the great errors in keeping parlor plants is, to assemble too great a variety. A few kinds bear the heat of a living room very well; one plant, well tended, and in fine health, will afford more pleasure than twenty half-nurtured; we are induced to the remark, by having lately seen a Catalonia jasmine covering a large space, and running over the inside of a window. Mr. Kilvington, of this city, unites a number of elegant climbers in one pot, and, when in fine health and vigor, nothing can be more beautiful. But there can be no such thing as floral health without fresh air, and enough of it.—It is often asked, what plants will best protect a loose or sliding bank of earth, such as is made by a deep cut of a railroad? The Silver Poplar for trees, and the Osage Orange, and the Sea Buckthorn, for shrubs, and the Lucerne and the *Arundo arenaria* among grasses, are the best available. The roots of the Lucerne grow three feet in a season, and form a very strong mat of fibres. It will continue, in a good soil, about fifteen years.—Two of the great errors of American gardens will be found to be the following: The walks are not kept *full* of gravel, which gives them a harsh and depressed look. Secondly, the flower beds are not kept *covered* with foliage; they thus expose unsightly patches of soil, which dries and bakes in the sun; verbenas, by regular pegging down their shoots, cover the ground thoroughly, with proper care.—A correspondent calls our attention to the circumstance, that when writing of the Persimmon, we omitted to mention the efforts made in France to improve this American wilding. M. Audibert produced, some years ago, a seedling with large, round fruit, as large as a hen's egg, of a golden yellow color, and an agreeable flavor. Vague rumors have reached us that this new variety has been introduced in one of the Southern States. If so, we should be glad to hear more of it.—Old John Evelyn, in his "Philosophical Discourse of Barth, &c.," printed in 1676, says: "Fruit-trees do generally thrive with the soil of neats and hogs; most flowers with that of sheep, but especially roots. Peter Hondius tells us, that by the sole application of sheep's dung, he produced a raddish-root as big as half a man's middle, which, being hung up for some time in a butcher's shop, people took it for a hog."—What plant is this, described by the same quaint old writer? "Some vast timber-trees have little or no mould adhering to their roots; such is that beautiful stranger, the Japan Lily, called by those of Gurnsey, *la belle de nuit*; and a certain Palm of the same Japan, which shrinks and dries at the least touch of water, as if it were laid before the fire, which is, it seems, the only remedy that restores it, or the sudden replanting it in scales of iron, or the most burning sand."—To convert cheap cotton stuff to a substance for sheltering or forcing plants, after the cloth is stretched to its place, *paint* it with a mixture of three pints of best boiled linseed oil, four ounces of white resin, and one ounce of sugar of lead; the oil and resin must be a little heated to mix them, and the sugar of lead must be first ground with a little of the oil, and then mixed with the remainder. Thus treated, the cotton becomes semi-lucent, retentive of heat, and is not one-fifth the cost of glass.—Extraordinary accounts of the effects of electricity on vegetation were circulated ten or twelve years ago, but careful experiments have not proved its utility; those experiments were detailed in the *Journal of the London Horticultural Society*, and were copied into the *Horticulturist*, vol. i. page 524, but nothing since has been proved to give the subject importance.—Willis, in his amusing "Letters from under a Bridge," speaking of the selection of a site to make a paradise in the country, remarks: "I am supposing you want a patch of the globe's surface to yourself, and room enough to scream, let

off champagne corks, or throw stones, without disturbance to your neighbor." "But," he goes on to say, "this desire for seclusion has led some further into the wilderness than necessary, two or three miles being quite far enough to send your horse to be shod, or to send for doctor or washerwoman, and half the distance would be better, if there was no prospect of the extension of the village limits. But the common diameter of idle boy's rambles is a mile out of the village, and to be beyond that is very necessary, if you care for plums or apples." There is philosophy and common sense in this and much of these letters.—By way of London! we learn that the Mormons have founded a Horticultural Society, W. Woodruff, President; the first meeting was opened with prayer; peaches were the only objects of exhibition, by two ladies, whose husbands were absent preaching their gospel; we are told, "the whole appearance of the stand was sufficient to excite the epicurean taste of the most refined, and was a feast never before equalled in these vast mountain regions. The people seem very ignorant of horticulture.—Is it not a curious circumstance, that we rarely or never hear even the name of the greatest living botanist in Europe? It is Robert Brown, a retiring gentleman, residing in London. "Humboldt," said Sir R. H. Inglis, at a meeting of the British Association, "described him as *le premier botaniste de l'Europe*, accurate, sagacious, and profound, and whose knowledge is only equalled by his modesty. May I add," he continued, "the expression of every one's wish that he would deposit more of his knowledge in print?" Mr. Brown, when a young man, accompanied Captain Flinders in his voyage to New South Wales, and, on his return, published an account of the botany of that region. Sir Joseph Banks, seeing his extraordinary aptitude for science, made him his librarian and curator of his botanical collection, which is now in the British Museum; he left him a house to live in, but nothing to keep it, and he has enjoyed since a moderate income from the Museum, where he has a light employment, and must be now more than eighty years old. A greater authority in botany than Humboldt, De Candolle, said of him: *Facile princeps Botanicorum*.—A French physician has lately propounded a theory on the effect of color on health. Observations for many years show that workers who occupied rooms thoroughly lighted and ventilated, were more healthy than those in rooms lighted with small windows, and from one side only. In two adjoining rooms, equally well ventilated, one set of workmen were healthy and cheerful, and the other melancholy, and often unable to work. The cheerful workers were in a room wholly whitewashed, and the melancholy men occupied a room colored with yellow ochre, which on being well whitened, the men recovered, and were cheerful and healthy. It was found in extensive practice, that whenever occupiers of yellow or buff-colored rooms could be induced to whitewash them, a corresponding improvement in health and spirits resulted. This is most important for schools, asylums, and hospitals, as well as manufacturers' rooms.—The French Exposition, last year, was visited by four million and a half of people; the Great Exhibition in London, in 1851, numbered over six millions; 40,000 English visited the French, but only 27,000 came to London from France.—The eccentric Lord Holland used to give his horses a weekly concert in a covered gallery, specially erected for the purpose. He maintained that it cheered their hearts, and improved their temper, and an eye-witness says that they seemed to be greatly delighted therewith.—George Don, the editor of Don's *Miller's Gardeners' Dictionary*, a work of celebrity and usefulness, died in February last, at the age of fifty-eight; he was the last of a well-known family of botanists. He travelled as collector of the London Horticultural Society, in Brazil, the West Indies, and Sierra Leone, and added largely to their collections.—Petunias, so peculiarly adapted to our warm and dry climate, improve little less rapidly than the verbena; striped and mottled varieties are not now very uncommon. The English advertise a new Double White. The following is from a London paper: "PETUNIA IMPERIAL. Two plants of this novelty in the petunia way, have been in flower for the last three weeks. The blooms measure considerably over two inches across, and are quite as double as those of any first-

rate carnation. It is very sweet, the scent resembling that of a rich stock. It will prove a great acquisition for bouquet making, and room decoration, vases, &c. The habit in pots is dwarf and good, flowering early, and it has every appearance of continuing in blossom for a length of time."—Mr. Fortune, the introducer of *Weigela rosea*, *Dicentra spectabilis*, and so many of our other valuable new plants, is still collecting in China.—Our transatlantic friends are not often found guilty of honoring our cultivators or celebrities and their productions, by naming them accordingly. In a French catalogue, however, we find amongst the new roses, "*Madame Knorr*," "*Capitaine-Ingram*," and "*Frederie Soulie*."—The new Japan Lettuce seems likely to be a favorite. The heat of summer has little effect on its hard, compact heads, when even the Drum-Head "runs" to seed.

ANSWERS TO CORRESPONDENTS.—LOIS-WEEDON CULTURE.—I see in the agricultural papers from abroad, frequent notices of the success of the "Lois-Weedon" mode of culture. Can you oblige your readers with a brief account of it? W. P. S.

The Lois-Weedon plan consists in thorough drainage, deep culture, and the aeration of the soil and crops; to which is added, in practice, the absence of much or any manure, which is procured from that "second farm" which lies below the old cultivated ground. They are beginning to promulgate the doctrine that thorough stirring of the soil, on old Jethro Tull's plan, admits so much ammonia, that other fertilizers may, in many soils, be almost entirely dispensed with. An old farmer, named Moore, was so convinced of having solved the golden problem of steam ploughing, that he sold his farm horses!

The whole story of cultivation may be condensed into a few words, thus: The roots of delicate plants will not travel through earth that has never seen daylight. Dr. Clark once said: "The frost is God's plough, which he drives through every inch of ground," pulverizing and fructifying all.

(CALLA.) Thanks; appreciation is reward; we have no other aim or compensation, and, of course, her beautiful thoughts are deeply impressed. If we were obliged to choose, preference would be given to young ladies like her for critics, even over her favorite "Jeffreys." We are sorry to inform her, "*Jeffreys*" is engaged!

PHILADELPHIA, June 13, 1856.

DEAR SIR: The silver maples which line our streets in different parts of the city, have been, for two years past, nearly destroyed by caterpillars. These trees have been much recommended for their beauty and rapid growth, and, at the same time, said to be free from attacks of insects. You would confer a favor on many of your friends, if you would give us some light as to the manner of preserving these trees, in the *Horticulturist*.

Respectfully, yours, P. S. P.

The idea that there is any tree free from the attacks of some kind of insect or another, is a pleasant fiction. In this respect, every tree has its natural enemy, not excepting even the notorious *ailanthus*. When these trees are in their native localities, the abundance of them, and of their protectors, the birds, keeps the "enemy" from making much show. When cultivated, circumstances are just reversed; till, year by year, insects so increase, that we first observe, then wonder where they come from. In the towns, we must take the places of the birds. In the case of the maple, this can very readily be done. The caterpillars you speak of are the larvae of the dropworm. They hang like tassels on the trees before the leaves expand. A half hour to each tree, with a pole and pruning shears, would rid you of your share; but they will come from your neighbors! Induce them, if possible, to go and do likewise. If they be too negligent, use your influence with the City Councils to make them. No man should be subjected to a nuisance, by the neglect of his neighbor.

THE NEW YORK STATE AGRICULTURAL COLLEGE is attracting general attention. The charter obtained, a location becomes a matter of great importance. The citizens of the counties of Seneca, Cayuga, and Tompkins, have had a meeting, and designated Sheldrake Point as a desirable location.

NEW TEST FOR THE STRAWBERRY.—At a late meeting of Strawberry tasters, amateurs, a decision as to the best variety not having been agreed upon, it was proposed to leave the question to the birds. A careful watch was set, and it was discovered the rogues gave a preference to Burr's New Pine, and we are not sure but they have good reasons for their preference.

ROSES AND HAIL-STORMS.—A friend near Chicago writes us thus: "Really, I have never seen such a show of roses, in Illinois, as there is this year. My bushes were nearly, if not quite, covered with snow during all the severity of the winter, and were very little killed; in fact, the shortening-in that they received from the frost seems to have caused an excess of flower buds to put forth. I was afraid the hail-storm of the 6th of June! would have done much damage, but the strength of the storm was over and near the lake. I have never seen such large hail-stones as fell in the city; I saw them an inch and a half in diameter—larger than in the Southern Ocean, when we used to say that a volcano had broken out in an iceberg!"

FRUITS OF THE CRIMEA.—New apples, of extraordinary excellence, have been discovered in the Crimea, which will, no doubt, find their way to Europe and America. Pallas speaks of one called Sinap Alma, which keeps till July, and only acquires its excellence before the new year. Wagon loads are annually sent to Moscow, and even St. Petersburg. There is also an autumn apple, thought to be far the best ever tasted in any country. A larger cobnut than heretofore known, is also recorded. Twenty-four varieties of grapes are cultivated, either for wine or the table. None of them appear to be of importance.—*Edinburgh Philosophical Journal*.

WIRE FENCING, AGAIN.—James E. Butts, Jr. & Co., of Boston, have been much encouraged by the demand for their woven wire fencing; it is obtaining an extensive popularity. A pamphlet of their publication has reached us, containing descriptions and prices, which may be had on application to the above address. It contains many strong arguments in favor of wire.

THE CALENDAR.—We could more frequently refer to the value of the Calendar of Operations than we do, to express our high estimation of its value, but it is so evidently appreciated, that this is unnecessary. It occupies so much of a limited space, that in all probability, it cannot be repeated in our columns, at least so much in extenso. Thus the volume of 1856 will be one of reference, and the numbers should be, as they probably are, generally carefully preserved. We know of no more valuable instruction in the same space.

OHIO FAIR.—The seventh annual fair of the Ohio State Board of Agriculture, comes off at Cleveland on the 23d, 24th, 25th, and 26th of September next, and is open to competition from other States. The premium list is excellent and liberal, and the arrangements making, show that the committee are in earnest, and know what they are about. It would give us great pleasure to be present.

Meehan's Catalogue of tree and shrub seeds, this season, fills a large sheet. It includes a great many seeds that have been long sought in vain by purchasers, such as the Buffalo

berry, *Virgilia lutea*, *Cryptomeria Japonica*, *Prinos glabra*, *Wistaria frutescens*, *Fraxinus quadrangulata*, *Halesia diptera*, &c. &c. A stamp inclosed and directed to Mr. M., Germantown, Penn., will procure it, and any of the articles may be ordered in twenty-five cent papers. Such collectors are public benefactors.

THE NEW SEEDLING ROSES of Mr. James Pentland, Baltimore, are now added to our collection, by the kindness of the proprietor. We shall report on them when they bloom.

Coach-Makers' Magazine.—It was news to us, as it may be to many of our readers, to learn that there was a publication devoted to coach-making, and a capital periodical of its kind it is, coming within the scope of notice in a work devoted to rural art. The *Coach-Makers' Illustrated Magazine* is published at New York, by C. W. Saladee, at three dollars per annum; it is a quarto, profusely illustrated, and doubtless a very useful publication. There is also another, issued in Ohio. What next?

SEEDS FROM CALIFORNIA.—We are greatly indebted to B. B. Redding & Co., of the *State Journal*, Sacramento, California, for a package of seeds of value. Among them is one of the greatest vegetable curiosities, called the Sing, or Vegetable Chestnut, sold by almost every Chinese vender of edibles in California, and brought from China in a cooked state. It resembles the horns of a bull.

The editors say that they have found but one place where these odd nuts are sold uncooked, and these are so damaged by age and mould, that there is no possibility of making them grow.

The plant producing this nut is well known to botanists. It is the Chinese *Trapa bicornis*—the word is abridged from *calcitrappa*, the Latin



Trapa bicornis.

name of a dangerous instrument furnished with four spines, which was formerly used in war to impede the progress of cavalry. Both this and the *T. natans* are aquatic; the nuts are farinaceous, and are esteemed nourishing and pectoral. The skin, with the spines, being removed, there is a white, sweet kernel within, somewhat like a chestnut. The *natans* are sold in the markets of Venice, under the name of Jesuits' nuts. They are also much eaten in Switzerland, and the South of France. Some of the canals at Versailles are covered with the plant. Pliny says that the Thracians made them into bread; and Thunberg states that the seeds of the *T. bicornis* are commonly put into broth in Japan. The plant flourishes in a cistern in the stove, and was fruited in England, in 1815. It is cultivated, by the Chinese, in marshes, and is a favorite article of food, which accounts for its being common in the oriental shops of California.

Accompanying these curious water-chestnuts are specimens of an apparently new walnut, lately discovered in California, in appearance between our native walnut and the Madeiranut. Mr. Redding brought from a distance suckers from some old stools, and has them growing at Sacramento. We shall pay every attention to our specimens, and endeavor to raise them. The tree is recommended for shade and ornament. Other specimens were sent to the Patent Office, but no leaves or flowers having been received, we are unable to say more of it at present; it does not appear to be described either by Michaux or Nuttall.

SWIFT'S IMPROVED LAWN MOWING MACHINE, on the basis of "Shanks's," we have lately seen at work, and we are free to say that its operation is perfect; it cuts, picks up the grass, and rolls at the same time; the cutting is even, and, after a few weeks, a lawn presents the appearance that it should always do, and soon acquires an even, firm sod.

It is one of the greatest labor-saving machines ever invented, and is getting generally diffused. Address H. N. Swift, Fishkill Landing, Dutchess County, New York.

AUNT CHARLOTTE'S SEEDLING STRAWBERRY is in request; one correspondent having actually sent the large sum of ten cents! for some seeds! We do hope some of our readers suppose there are disinterested articles which are not disguised puffs, occasionally, at least, in the *Horticulturist*. The story was not written to sell the plant—quite the contrary, for the excellent penman and amiable gentleman who wrote that article, is too happy whenever he can gratify a friend; he was amused, however, with the remittance, which is expended in stamps, to tell the writer as much!

PARKS FOR PHILADELPHIA.—Will it be believed, by future generations, that twelve years have elapsed since the great city of Philadelphia purchased ground for a park, and that, up to this day, the site is a desert? We possess about fifty acres in Lemon Hill, above the Water-Works, a site of great beauty, once the abode of wealth and taste, but now a lager-beer and ice-house waste! A pamphlet, on our table, appeals ably and forcibly to the Councilmen to improve it now. Shall another twelve years elapse before these politicians obey the wishes of their constituents? We fear it, and we fear that thrice twelve years will go by with a like result. The tax payer who contributes \$100 a year to the public funds, need pay in addition but six cents per annum, to keep Lemon Hill as a beautiful public park, and yet we have waited twelve years for a beginning to be made, and, meantime, it grows yearly more hopeless by the destruction of its former beauty and its trees! *Alas!* how penny-wise and pound-foolish is most of our legislation.

Hunting Park Course, a level spot of forty-five acres, presented by a few patriotic gentlemen to the city of Philadelphia, seems to be under better auspices, and is, we understand, soon to be improved.

THE PORTUGUESE VINEYARDS.—In the late circular of Mr. Forrester, the great wine manufacturer, he gives a most gloomy picture of the Portuguese vineyards. So great is the falling off of the produce, that fabulous prices are demanded, and it now appears that the great proprietors have planted Indian corn to supersede the vine, and, moreover, that a new disease, caused by an insect, has made its appearance, and threatens the vines of Portugal with the fate of those in Madeira and Teneriffe. The indications are strong that Europe must ultimately receive her supplies of wine from America, or elsewhere.

THE VINEGAR PLANT.—The editor of the *Rural Intelligencer* gives his own treatment of the vinegar plant thus:—

"We spoke last April of a vinegar plant given us by a lady. We took it home, procured at an apothecary's store one of his largest glass jars, holding some two gallons, filled it with common sweetened water committed the plant to it, and there it has been ever since, spreading its folds upon the surface, till it was evident the vinegar had become strong enough almost for the death of the plant; whereupon, this week, we removed the original sweetened water, and supplied its place with new, for the plant to work upon. On drawing off the vinegar, it was found very strong indeed—almost as strong as lye, and, for ordinary table purposes, it will require to be diluted with fresh water. There is no mistake about it—this vinegar plant will keep our family in the purest vinegar as long as we shall need such an article."

[Our own experiments with the vinegar plant have also been entirely successful.—Ed.]

FRUIT IN THE WEST.—The dreadful effect of the last awful winter on the fruits of the West, is recorded in the following articles. We place them on record for the information of our readers, and for future reference.

FRUIT IN WISCONSIN.—J. C. Brayton, the horticultural editor of the *Wisconsin Farmer*, writes to the *Ohio Farmer* from Astalan Nurseries, Wisconsin, May 28 :—

"The following varieties of the cherry and other fruits, have endured the cold of the past winter, nearly in the order in which the names of the several species are written :—

"**Cherries.**—Early Purple, Guigne, Cleveland Bigarreau, Florence, Elton, Downer's late Red, Gov. Wood, Holland Bigarreau. Next to these, Knight's Early Black, and Black Tartarian. All others are killed down, of the Heart and Bigarreau classes.

"**Plums.**—Nearly all killed down; White and Red Magnum Bonum, and Smith's Orleans, form the exceptions.

"**Pears.**—Onondaga, Flemish Beauty, Virgalieu, Oswego Beurré, Stevens' Genesee, Doyenné d'Ete, Duchess d'Angouleme, Sisson, and Seckel. Nearly all others killed.

"**Apples.**—Those that were uninjured are: Early Pennock, Fall Strips, Autumn Swaar, Fall Wine Sap, Fameuse, or Snow Apple, Fulton Strawberry, Fall Orange, Sweet June, Vance's Harvest, Sops of Wine, Lowell, or Tallow, Red Gilliflower, Roseau, St. Lawrence, Sweet Pear, Utter's Large, Belleflower Yellow, Baily Sweet, Blue Pearmain, Black Vandevere, English Russet, Perry Russet, Red Spitzenburgh, Rawle's Jennet, Herefordshire Pearmain, Talman's Sweet, White Winter Pearmain, Westfield Seek-no-further, Wine-sap."

FRUIT IN ILLINOIS.—R. S. Cooper, of Henderson, Illinois, writes thus to the *Knoxville Journal* :—

"The severe effects of the cold of last winter upon fruit and other trees, are without a parallel in the history of this country. During the most intense cold, the mercury sank to about thirty degrees below the zero of Fahrenheit.

"The more tender varieties of fruits, as peach, nectarine, and apricot, are generally killed to the ground.

"Even some of the young shoots of the hickory, butternut, and some other indigenous forest-trees, have suffered to a considerable extent.

"Quinces are generally killed. The more hardy varieties of fruit, as apple and pear, have suffered far less on high, rolling land, than the same kinds on level soil.

"Young trees from Eastern nurseries have fared as well, or even better, than those reared from seed in our vicinity. Dwarf apple and pear-trees have almost entirely escaped.

"In an orchard of over four hundred dwarf pear-trees, including almost every variety recommended by Downing, I have not had more than three or four killed, and these were all the Summer Franc-Real. I only lost one dwarf apple, and it was on a wet piece of land. The Yellow Belleflower, Lady Apple, Fameuse, and Herefordshire Pearmain, appear to have entirely escaped in every locality.

"The following varieties of apples have not been seriously injured, except on lands decidedly wet, viz: American Summer Pearmain, Red Astrachan, Benoni, Prince's Harvest, Early Strawberry, Golden Sweeting, Keswick Codlin, Autumn Strawberry, Cooper, Duchess of Oldenburg, Fleiner, Hawley, Lowell, Maiden Blush, St. Lawrence, Baily Sweet, Yellow Belleflower, Belmont, Danvers' Winter Sweet, Hubbardston, None-Such, Lady Apple, Lady's Sweet, Mother, Newtown Pippin, Golden Russet, Spitzenburgh, Talman's Sweeting, Wagoner, Cole's Quince, Genesee Chief, Scarlet Pearmain, and Well's Sweeting.

"The following varieties have been severely injured, and in many cases killed outright, viz: Large Sweet Bough, Summer Rose, Fall Pippin, Holland Pippin, William's Favorite, Drap d'Or, Gravenstein, Hawthornden, Jersey Sweets, Porter, Pumpkin, Sweet, Baldwin, Bourassa, Norton's Melon, Northern Spy, Bawl's Janet, Beauty of Kent, Winter Swaar, Summer Queen, and Mylum.

"The following varieties of pears have generally escaped, viz: Bloodgood, Beurré Giffard, Doyenné d'Ete, Osborne's Summer, Tyson, Buffum, Beurré d'Amalis, Beurré Goubault, Beurré Golden of Bilboa, Bergamot, Crassanne, Belle Lucrative, Dix, Doyenné White, Doyenné Gray, Forelle, Fulton, Louise Bonne de Jersey, Oswego Beurré, Oswego Incomparable, Seckel, Stephen's Genesee, Swan's Orange, Beurré d'Arenburg, Passe Collmar.

"The following varieties have generally been severely, if not fatally injured, viz: Bartlett, Madeleine, Rostieser, Summer Franc-Real, Brown Beurré, Beurré Bosc, Beurré Diel, Duchess d'Angouleme, Flemish Beauty, Henry IV., Marie Louise, Easter Beurré, Glout Morceau, Prince's St. German, Vicar of Winkfield, Angora, Winter Nellis, Ott.

"The following varieties of cherries are fatally injured, viz: Black Eagle, Black Tartarian, Burr's Seedling, Downton, Downer's Late, Elton, and Yellow Spanish.

"The following varieties have entirely escaped, viz: Belle de Choisy, Belle Magnifique, Carnation, Early Richmond, Montmorency, May Duke, English Morrello, Reine Hortense.

"The following varieties of plums have escaped, viz: Coe's Golden Drop, Magnum Bonum Yellow, Red Magnum Bonum, Orange, Washington, Yellow Gage, and Smith's Orleans.

"The following varieties are mostly killed, viz: Bleeker's Gage, Duane's Purple, Jefferson, Lawrence's Favorite, Reine Claude de Bavay, and Cherry.

"Among roses, the Hybrid Perpetuals have almost entirely escaped.

"The above has been made out, after carefully examining very many fruit-trees in various localities."

G. C. THORNBURN'S NEW PLANTS.—We noticed the spring *Catalogue* for 1856, issued by Mr. G. C. Thorburn, of Newark, N. J., lately, and had the pleasure of unpacking a box of his varieties, the other day, which promise to add lustre of no common kind to our summer greenhouse and bedding-out plants.

Among them we notice, with particular favor:—

Fuchsias.—*Empress Eugenie*; wide, reflexed sepals, of a rosy crimson, with a violet shading; corolla, fine white; graceful habit, and beautiful foliage.

Lady of the Lake; fine, deep crimson tube and sepals, with bluish white corolla.

Duke of Wellington; crimson sepals, and lilac stained corolla.

Duchess of Lancaster; white tube and sepals; lovely violet corolla; very large and fine.

Sir John Falstaff, Vesta, &c. &c.

Geraniums.—*Enchantress*; large, white; top petals clouded with purple; lower petals white; showy.

Beauty of Combe Park, Chepstead Beauty, Cerise Unique, Cottage Maid, King of Nepaul, White Unique, &c. &c.

Heliotropes.—*Beauty of the Boudoir*; the finest in cultivation; violet blue, with light eye, of the most exquisite perfume, fine foliage, and extra habit; now first sent out.

Gem, Grandiflora, &c. &c.

Verbenas.—*Brilliant de Base*, Lord Raglan, Eblouissante, Flirt, Hector, Honeysuckle, Admiration, Kurtz Defiance, &c.; together with several rare evergreens, including the Funeral Cypress, &c. &c.

The Thorburns, both of New York and Newark, have done, and are doing, much for horticulture and floriculture, and orders sent to either house, will be promptly and carefully executed.

MR. A. FAHNESTOCK, the corresponding partner of the Syracuse Nurseries, has sold out his interest there, and removed to Toledo, Ohio, where he carries on the nursery business in all its varieties, and, we doubt not, with the approbation of his friends.

MANLY AND MASON'S Trade List for 1856, and spring of 1857, from the Buffalo nurseries and Oakland gardens, just issued, contains a large variety of ornamental trees, evergreens, fruit-trees, esculent roots, &c. &c., together with greenhouse and bedding-out plants.

USEFUL HINTS TO IMPROVERS.—Sir Uvedale Price has the following judicious remarks: "In all that relates to cottages, hamlets, and villages, to the grouping of them, and their mixture with trees and climbing plants, the best instructions may be gained from the works of the Dutch and Flemish masters, which afford a greater variety of useful hints to the generality of improvers, and such as might more easily be carried into practice, than those grander scenes which are exhibited in the higher schools of painting. All the splendid effects of architecture, and of assemblages of magnificent buildings, whether in cities, or amidst rural scenery, can only be displayed by princes, and men of princely revenues. But it is in the power of men of moderate fortunes, by means of slight additions and alterations, to produce a very essential change in the appearance of farm buildings, cottages, &c., and in the grouping of them in villages; and such effects, though less splendid than those of

regular architecture, are not less interesting. There is, indeed, no scene where such a variety of forms and embellishments may be introduced at so small an expense, and without anything fantastic or unnatural, as that of a village; none where the lover of painting, and the lover of humanity, may find so many sources of amusement and interest."

DEAR SIR: I cannot forego a remarkable passage of Mr. Cretin's speech in the Commice of St. Symphorien. He says:—

" * * * Agriculture and business are twin sisters; they aid each other. When one is suffering, the other feels the effect of it. * * * Agriculture is the most moral of all arts; we are going to prove this. * * * We often hear people say: This industry, set up in that State, is going to interfere with a rival industry in another State or town; not so with agriculture. Never did good cultivation impede the progress, or diminish the benefits of another good cultivation. But, two firms in the same city or town transact the same kind of business; they are rivals, and conceal their operations. Two farmers produce the same crops; they give each other all information, and promote, at large, the best methods of cultivation; they emulate, and do not rival. What is the reason? The first have a certain, limited number of customers, who can leave them; the others, have all the world for customers, and God and nature for stock."

Industry works on a given capital; what one gets, he takes it (as more than his share) out of that capital. Agriculturists depend upon that inexhaustible source which comes from nature's bountiful treasure. It does not take away what ought to be the share of others; there is no competition, and, of course, no angry feelings. B.

Horticultural Societies.

NEW YORK HORTICULTURAL SOCIETY'S EXHIBITION.—The show of plants, flowers, and garden vegetables, in June, at Clinton Hall, was worthy of note in several points of view. In the first place, it was the show of a society numbering some three hundred paying members, at a season of the year when earth's plants were in full bloom, and when every gardener who cultivates vegetables for the city market should boast of his abundant productions. The Society published a liberal list of premiums. * * *

In fruit the show was better. There were perhaps a dozen quarts of strawberries, and some of them very handsome. Two dishes of Longworth's Prolific, exhibited by Edward Decker, gr. of J. Q. Jones, took a five dollar premium, and were considered much the finest specimen exhibited, though several others were handsome, both of this variety, Hovey's Seedlings, and some others. There were several fine seedlings.

Rare plants were indeed rare. Not a single one of the celebrated new Chinese plant, *Dielysa Spectabilis*, was shown, and only a meagre bunch of the flowers. There were four pots of *Erica*, in full bloom, one of them bearing flowers of pale green, shown by Alex. Gordon, gr. to Edwin Hoyt, that could not be easily exceeded in beauty.

The same gardener exhibited a plant, we think, quite unknown to florists generally in this country, called *Parrotia Borbonica*. It is not in flower, but the leaves are very beautiful, and attracted much attention. It was awarded a premium of ten dollars.

The collection of cut roses was as fine as the most ardent lover of this, the Queen of Flora's Kingdom, could desire. The first premium, fifteen dollars, was awarded to Wm. A. Burgee, of Glenwood, near Roslyn, L. I., for the best collection of roses, and a premium of ten dollars for a bunch in a pot. He has some seventy varieties, most of which he brought from England three years ago, of the choicest in the kingdom. This fifteen dollar premium was the one offered by W. G. Hunt.

Dr. G. Knight showed a pretty collection of ferns, a beautiful plant which is very much neglected, because it is so common in a wild state. His new arrangement of long, tin tubes, filled with water for cut flowers, is a great improvement on the old style, of vials set in holes in a board.

The great lack of interest in the public of New York, is the most remarkable thing connected with the show and the Society. True, there was a fair amount of visitors in the evening, but, through the day, the rooms were nearly empty, and no wonder; the exhibition was not one to attract a crowd, or one worthy their attention, or creditable to the city, however much it might be to the active few who have so long struggled to maintain it in a state of respectability.—*New York Paper*.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The stated meeting of this Society was held at Concert Hall, Philadelphia, on Tuesday evening, June 17, 1866, E. W. Keyser, Vice-President, in the chair. Premiums were awarded by the Committee on Plants and Flowers, viz:—

Fuchsias—eight plants—for the best to Thos. Robertson, gr. to B. A. Fahnestock; for the second best to John Pollock, gr. to James Dundas. Gloxinias—eight plants—for the best to Thos. Robertson; for the second best to John Pollock. Herbaceous cut flowers—for the best to Peter Raabe. Collection of twelve plants—for the best to Robert Buist; for the second best to Chas. Sutherland, gr. to John Anspach. Collection of six plants—for the best to Mark Hill, gr. to M. W. Baldwin. Specimen plant—for the best to Thomas Robertson, for *Stephanotis floribunda*; for the second best to John Pollock, for *Madonia magnifica*. For New Plants—four dollars to John

Pollock; one dollar to Thomas Robertson. *Table-Design*—for the best to Chas. Sutherland. *Baskets*—for the best to J. J. Habermehl, gr. to John Lambert; for the second best to Mark Hill. *Bouquets*—pair—for the best to H. A. Dreer; for the second best to J. J. Habermehl.

Special Premiums.—Four dollars, for a collection of Orchids, to John Pollock; two dollars, for a collection of cut Roses, to Henry A. Dreer. The Committee noticed a fine collection of Verbenas and Phlox Drummondii, new varieties, and a handsome collection of Potanias, by Mark Hill.

By the Committee on Fruits. Strawberries—for the best—A. L. Felten, for the Moysamensing; for the second best to the same, for Hovey's Seedlings. Cherries—for the best to G. W. Earl; for the second best to Isaac B. Baxter. Grapes—three bunches—for the best Black to Chas. Sutherland; for the second best to Wm. Gramie, gr. to John Tucker. Currants—for the best Red and White, to Isaac B. Baxter. *Special Premiums*—for a fine display of Strawberries, embracing thirteen varieties, three dollars to A. L. Felten; and, for the finest specimen of Pineapple ever exhibited, and weighing nine pounds, five dollars to Wm. Grassie.

By the Committee on Vegetables. *Display*—for the best, by a market gardener, to A. L. Felten.

The Committee on Plants and Flowers, to whom was referred the samples of labels of the names of fruits and plants, to be attached to trees and plants presented to the Society by André Leroy, of France, reported that they had examined them, had tested them by immersion in water, to which they were impervious, and recommend them as worthy of general use, being at once ornamental, durable, and moderate in price.

Five gentlemen were elected to membership.

OBJECTS EXHIBITED; PLANTS.—From James Dundas's collection. *Orchids*—*Oncidium flexuosum*, *O. ampliatum*, *Cattleya Moensis*, *C. M. major*, *Calanthe veratrifolia*, *Acanthophippium bicolor*, *Succolabium micranthum*. *New Plants*—*Isolonia Decasneana*, *Hydrangea variegata*, *Camphylobotrys discolor*, *Allopecurus Schlenkii*, *Begonia zanthina marmonii*, *Phrynum micans*, *Fuchsia Empress Eugenia*, *F. Water Nymph*. *Eight Fuchsias*—*Voltigeur*, *Ajax*, *Clapton Hero*, *Magnificient*, *Alpha*, *Glory*, *Sidonie*, *Prince Albert*. *Eight Gloxinias*—*Queen*, *Fyfauna grandiflora*, *Cartonii superba*, *Scottii*, *Caulescens*, *Eubra*, *Rubra violacea*, *and Arago*. *Collection of trees*—*Pleuroma elegans*, *Nierembergia grandiflora*, *Begonia semperflorens*, *Pelargonium Hendersonii*, *P. Madam Laffoy*, *P. Medall d'Or*, *P. Elise Meillor*, *Allamanda nersefolia*, *Petrathoea verticillata*, *Agapanthus umbellatus*, *Cuphea platycentra*, *Bilbergia amelloides*, and *Specimen Medinilla magnifica*.

From B. A. Fahnestock's. *New Plants*—*Fuchsia Empress Eugenie*, *Achimenes pictus*, *A. Sir F. Francham*. *Eight Fuchsias*—*Madam Sontag*, *Glory*, *Magnificus*, *Mrs. Lloyd*, *Pearl of England*, *Psyche*, *Alpha*, *Diadem of Flora*. *Gloxinias*—*Imperialis*, *Princess Lamballe*, *Godfrey*, *Wilsonii*, *Alba sanguinea*, *Huntleyana*, *Comptess Bocarmi*, and *Fyfauna*. *Trees Plants*—*Allamanda nersefolia*, *Medinilla urophylla*, *Mahernia Utana*, *Pelargonium Tom Thumb*, *Cryptolepis longiflora*, *Erica ventricosa superba*, *E. V. coccinea*, *Fuchsia Prince Arthur*, *Amaryllis Johnsonia*, *Oncidium lanceanum*, *Pitcairnia purpurea*, *Adamsia versicolor*. *Specimen*—*Stephanotis floribunda*.

By Robert Bulet. *Trees Plants*—*Pelargonium Flower of the Day*, *P. Kingsbury Pet*, *Fuchsia Cito*, *F. voltigeur*, *Seedling Calceolaria*, *Oncidium pulvinatum*, *Siphocampylus magnificus*, *Mahernia incisa*, *Gardquia Hookeri*, *Tecoma jasminoides rosea*, *Torsnia asiatica*, and *Diplodenia urophylla*. *New Plants*—*Veronica variegata*, and *Verbena Mrs. Woodroffe*.

From John Anspach's. *Hydrangea hortensis*, *Clerodendrum fallax*, *Fuchsia speciosa*, *F. Honey Cell*, *F. Psyche*, *Cereus cylindricus*, *Nerembergia grandiflora*, *Begonia Drezii*, *B. nitida*, *Cupheca platycentra*, *Tremandra verticillata*, and *Vinca occulata*.

From M. W. Baldwin's. *New Potanias*—*Kennedy's Lone Star*, *Attraction*, *Queen of the West*, *Rose Bank Beauty*. *Six Plants*—*Fuchsia magnifica*, *Pelargonium Witch*, *Fuchsia expansion*, *Ixora coccinea*, *Aphelandra cristata*, and *Geranium Senora*.

By John Gray. Twelve Seedling Verbenas, and three new Phlox Drummondii.

By Thomas Meehan. Cut flowers of *Clerodendrum Bungei*, and *Hovey's new Potanias*—*Excelsior*, *Glory of America*, and *Inimitable*.

From Samuel Welsh's. A Seedling Gloxinia.

From John Anspach's. Grapes—two varieties.

By A. L. Felten. Thirteen varieties of Strawberries, Gooseberries, and Currants.

Calendar of Operations.

AUGUST.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—Sowings of early beet, turnips, kidney beans, and peas, may yet be put in. They will afford a desirable dish when tender vegetables of that kind are scarce. Spinach, to stand the winter, should now be sown; prepare a well drained border, and manure and dig deeply. The savory spinach is the hardest. At the same time, throw in a few seeds of lettuce, to be lifted by and by, and transplanted into frames for using about Christmas. Cauliflower for frames should now be sown, as also Early York and flat Dutch cabbage, to stand over winter.

Plantations of canteloupes, melons, Lima beans, &c., that are growing slowly, should receive an extra deep forking-up of the ground between the rows. This will give them a stimulus to growth which will enable them to carry out a crop. This loosening allows a free access of air to the roots and the soil by which they are surrounded. The air furnishes the roots with an increased supply of substances essential to their growth, such as carbonic acid and ammonia, either generated by the air favoring the decay of organic matters naturally in the soil, or absorbed direct from the atmosphere. The mineral ingredients of the soil are also liberated, and brought into a fitting state for the use of plants. The subsequent effects of

such cultivation is apparent in the increased vigor and deeper colored verdure of the plants. Stir the ground about celery plants, and do not begin to earth it up until the plants are growing freely.

HARDY FRUIT.—*Grapes.*—The points of all the leading shoots should now be pinched out, and thin out some of the lateral or side shoots on the fruit bearing branches, so that a free circulation of air may reach the fruit, but not by any means endeavor to expose it fully to the sun. It will ripen more perfectly, and attain a deeper color under the shade of the leaves. It is not too late yet to cut out some of the bunches, if the crop is too heavy; the grape is a free and large bearer, but a continued yearly supply can only be insured by allowing regular and moderate crops.

STRAWBERRIES.—Plants for forcing early next spring should be secured, and potted early this month. Select young runners of the present year's growth, and place them singly into five-inch pots. Use a good, loamy soil; let it be rather dry when used, and press it firmly in the pots. If advantage can be taken of a shaded spot, they should be placed there for a week or so, until they commence growth; then they cannot have too much sun, but see that they are always well supplied with water. By slightly diminishing the foliage, they may be set out in the sun at once.

ROOT PRUNING.—Pruning the roots of trees is an operation conducive to fruitfulness not practised to that extent which it merits. In the hands of intelligent cultivators it is a valuable expedient, much more certain in its effects than many of the so-called dwarfing systems by grafting. Indeed, many of the stocks used for this purpose grow so vigorously in this climate, as to defeat the object in view. The mahalab is used as a stock for dwarfing cherries, in Europe; here, they grow as strong upon it as on the mazzard. Even the quince will not check the vigorous growth of some pears, and are, in consequence, many years in arriving at a bearing state. Pear culture on the quince, although beautiful in theory, does not seem to give entire satisfaction in general practice. Many are inclined to believe that they are short-lived when thus grafted. To such it may be useful to know, that all the advantages claimed for dwarf stocks can be derived from skilful root pruning.

Many expedients in the culture of trees that we are apt to consider only of recent application, have long been practised. Such operations to induce fruitfulness, as bending down the shoots, cutting the bark, or ringing the branches, root pruning, &c., were practised during the last century. Darwin, seventy years ago, alludes to these practices in the following comprehensive sentences:—

"If prouder branches, with exuberance rude,
Point their green germs, their barren shoots protrude,
Wound them, ye sylphs, with little knives, or bind
A wiry ringlet round the swelling rind:
Bisect, with chisel fine, the roots below,
Or bend to earth the inhospitable bough."

The advantage of root pruning is, that you can plant a young tree in a favorable position for luxuriant growth, and, after it has attained a size to bear a crop, throw it into fruit at once. This is effected by checking the growth in time to admit of the formation of wood buds. By digging a trench round the tree a few feet from the stem, at the present time, and cutting through the strongest roots, wood growth is checked, and fruit buds are formed before the trees become deciduous. Spring has been recommended for the operation, but the period of growth is the proper time to produce immediate effect. This treatment may be performed on all fruit-trees that have attained a size for bearing a crop.

GRAPERY.—When the fruit is ripening, the supply of water at the root should be gradually curtailed. Syringing over the foliage should also be discontinued, but still, keep a slight humidity in the atmosphere by sprinkling water on the floor of the house. Keep the house well aired, both night and day, and pinch the young points out of all growing shoots. When a bunch of fruit is cut, immediately prune back the shoot to within two or three eyes of the stem, and use means to get the wood well matured. The ripening and hardening of the wood is now the principal object, as upon it depends the next season's production. The soil and atmosphere should be kept perfectly dry as soon as the crop is fit for use. Many graperies are destroyed by being overtaken with frost while in a succulent and immature state.

Outside borders should be covered with leaves or manure, to throw off heavy fall rains. Everything, for the future, depends upon a thorough and proper termination of growth.

GREENHOUSE.—The gayety of the house will still be kept up with fuchsias, gesneras, gloxinias, and those beautiful and indispensable summer flowers, the achemenes. Endeavor

to keep the atmosphere humid, by a liberal application of water over the floor, staging, &c. Water such plants as require it, individually, early in the morning; shade as the day advances, and use the syringe freely over the foliage. By attention to these details, and closing the house partly, at least, keeping front sashes closed, preventing the dry, external air from reaching the plants, a comparatively cool atmosphere can be maintained. During the night, all the air possible may be given, that the plants may participate of the lowering of temperature universally consequent upon the absence of light.

Attention must now be directed to the stock of winter flowering plants, such as bouvardias, *linensis*, heliotropes, cinerarias, Chinese primrose, scarlet pelargoniums, coronillas, cytissus, &c. Shift such as require it into larger pots, and pinch the points of the shoots, in order to increase the number of flowering branches.

POTTING.—In removing young growing plants into larger sized pots, the roots should not be disturbed; indeed, they should be removed before the roots become so numerous as to spread round the sides of the pots. Any check now will throw them prematurely into flower, and thus partly defeat the object in view. For the same reason, watering must be regularly performed. The application of water is the most powerful controlling influence we possess in the artificial culture of plants. By limiting the supply, we can induce a state of rest, hasten the development of the flowering principle, and induce maturity of the wood, that will enable them the better to withstand the vicissitudes of winter.

Mignonette for early winter flowering may now be sown; prepare well-drained five-inch pots, by filling them with good, turfy soil, rather dry, and firmly pressed; sow the seeds on the surface, and, instead of covering, simply press them in. Set the pots in the shade, and keep moist; but be careful in watering after the plants appear, otherwise they will speedily disappear.

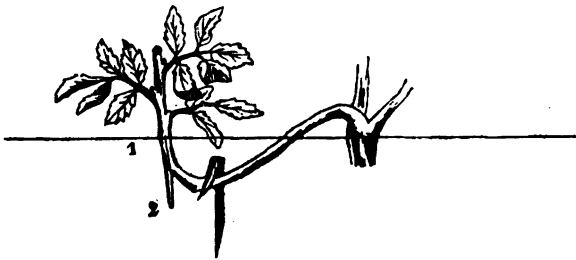
Pelargoniums that have been cut down, will now be making fresh growths; as soon as these are about a couple of inches in length, the plants should be taken out of the pot, all the soil shaken from the roots, so that they may be pruned, then place them in as small pots as the roots will admit of, and again set them in a sheltered spot to grow.

CYCLAMEN.—Water sparingly as they start into growth, and increase the supply as they approach the flowering state.

A few of the earliest camellias and azaleas may be brought into the house this month. All greenhouse plants that are out of doors, should be gradually brought into a condition of rest. Protect them from heavy rains by throwing them on their sides, if no better means of protection is at hand.

FLOWER GARDEN AND PLEASURE-GROUNDS.—The operations in these departments, at present, are principally of a routine character. In geometrical gardens, the outlines of the beds ought to be kept distinct, and trim the plants when they grow out over the edging. In tying climbing and trailing plants, do not aim at over-neatness; close tying tends to destroy that gracefulness of disposition which such plants naturally assume when left to themselves. In general, the main stems only will require fastening, allowing the side shoots to take a natural position.

Many shrubs and plants that are difficult to raise by cuttings, may be increased by layers. A layer may be defined as a cutting only partially separated from the plant. The branch is



bent down to the ground, and, at the bend, a cut is made half through the shoot, cutting upwards for about half an inch. Some plants do as well if the shoot is twisted at the bend; anything to check the flow of sap will cause a root formation. The figure shows the appearance of a layer. The line at 1 represents the surface. At 2, the cut part is shown, and strong branches will require to be kept in place by a

stout peg, as here represented. Nearly all plants, even fir-trees, may be increased by this practice.



THE KING APPLE.

Plant Series, No. 1. P. 17. 1

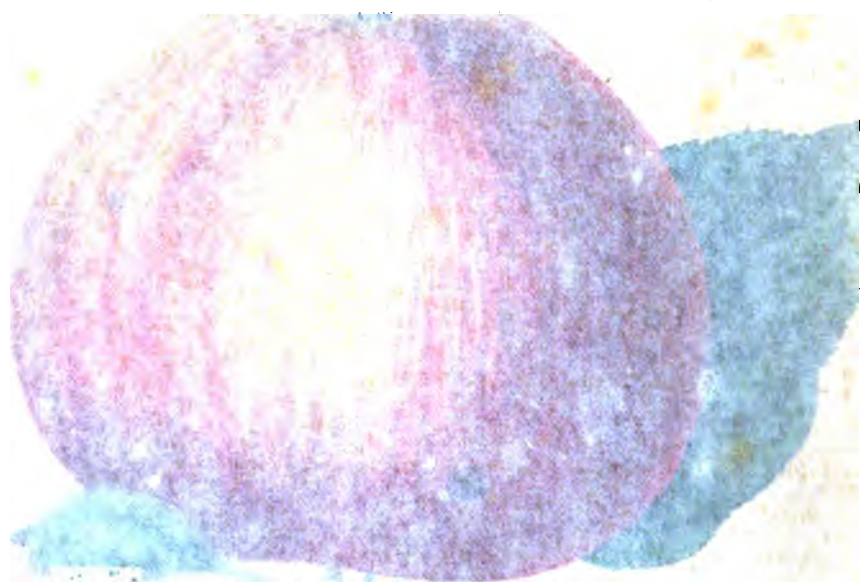
W. H. P. 17. 1

What is the name of the tree which is
 the most common in the garden?
 What is the name of the tree which is
 the most common in the garden?
 What is the name of the tree which is
 the most common in the garden?
 Or, in the garden?
 Or, in the garden?
 Or, in the garden?



evergreen, and two of deciduous with a situation; in a lot it will, without any an evergreen shadow, the spring with the Norway fir on the contrary, "near the ground" is removed, to give any moderate lot; when it is necessary to remove its character of of Lebanon, and many others; the property only those trees which grow trees which sweep from the top down to the ground, no difficulty will be found in the branches, for variety and beauty, to the trees, like the Norway spruce, and then larger roots, will be admirably proper in some cases, and rule can be perfectly understood, one in the first laying out of the garden.

A. in a lot, rounded-headed tree, individual property, the Norway or Black Maple is one of the spreads, in the most beautiful way, perhaps the most impenetrable shade in the garden, the Norway spruce, in the garden, is perhaps the most impenetrable shade in the garden, the Norway spruce, in the garden, is perhaps the most impenetrable shade in the garden.



Rural Cemeteries, No. 2. Planting, &c.

Art, Glory, Freedom, fail, but
Nature still is fair.—BRONX.

What trees may best adorn the mountain's brow,
And spread promiscuous o'er the plains below?
What, singly, lift the high-aspiring head,
Or, mix'd in groups, their quivering shadows shed?
What best in lofty groves may tow'r around,
Or creep in underwood along the ground;
Or, in low copses, skirt the hillock's side,
Or, form the thicket, some defect to hide?
I now inquire.



HE remarks in a former article respecting iron railings, materials for monuments, &c., apply with force to the selection of trees for a rural cemetery; they should be of a permanent kind, but, as they will grow while the other improvements are perishing, and may attain either a moderate or a great height and bulk of body, discrimination is eminently required. The planter must look forward to future years. Those trees which may be entirely suitable for ground not intended to be used for interments may be utterly unfitted, by their manner of growth, for a family lot. As instances of this difference, we may cite two of

evergreen, and two of deciduous habit. The hemlock may do very well for either situation; in a lot it will, without annual shortening, lose its lower branches, grow up, and overshadow the spot; without its lower limbs, it is an eminently handsome tree; the Norway fir, on the contrary, has lost its principal beauty when its "feathering near the ground" is removed; this feathering soon increases to such an extent as to cover any moderate lot; when a tombstone or a monument is to be erected, it becomes necessary to remove its chief attraction. The same remarks will apply to the Cedar of Lebanon, and many others; the rule being established to plant, in individual property, only those trees which grow upwards without low-spreading limbs, or trees which sweep from the top downwards, of which there is now a considerable list, no difficulty will be experienced; the company should adopt trees *with* lower branches, for variety and effect, where the situations are suitable to receive them. Deciduous trees, like the Buttonwood or the native Chestnut, would interfere by their bulk, and their large roots, with individual improvements, while they would be eminently proper in many sites not to be inclosed by individual owners. This rule will be perfectly understood on a little examination, and is a very important one in the first laying out of the grounds of a cemetery.

Again. Low, round-headed trees will be more permanently ornamental in individual cemetery property than those of tall or fastigate habit; the Norway or Black Maple is one of the most decided ornaments of a burial plot; it spreads, in the most beautiful manner, over a large space, while its shade is perhaps the most impenetrable of any we have; the Lombardy Poplar, on the con-

trary, would be in bad keeping with a monument or a tombstone, by overtopping them, reducing their apparent height, and yielding little or no shade below. Here will be observed a distinction which we are anxious to impress on those interested. With these simple rules remembered, and a knowledge of the habits of trees, it will be an easy task to plant a Cemetery with a due regard to the individual holdings as well as the company's duty of giving a finish to their department, which will consist, as before remarked, in planting the boundaries as well as the borders of the roads, and those spots not suitable, or likely to be wanted, for interments.

We shall now proceed to give a list, 1st, of evergreen-trees suitable for general purposes, to be planted by the company; 2d, of deciduous kinds; 3d, trees and shrubbery for individual planters; 4th, the best and newer weeping kinds that may be admitted with propriety and effect; 5th, a list of hedge-plants, to supersede the necessity of iron for inclosures; and 6th, vines suitable for individual lots, &c.:—

I. EVERGREEN-TREES SUITABLE FOR GENERAL PURPOSES, TO BE PLANTED BY THE COMPANY.

Norway Spruce Fir,
Hemlock Spruce,
The Cedar of Lebanon, and the *African Cedar*,
The Pinaster,
The Cephalonian Pine,
The Weymouth Pine,
The White Spruce Fir,
The Black " "

The Balm of Gilead; if this is planted in the youth of the cemetery, it will, in twenty years, serve as a tree to be thinned out and destroyed, and, answering for present effect, is useful.

Cryptomeria Japonica; a very desirable evergreen for cemeteries; not entirely hardy at the North.

Abies Douglasii,
 " *Morinda*,
Pinus Benthamiana,
 " *Sylvestris*,
 " *Gerardiana*,

Pinus Lambertiana,

" *cembra*,

" *monticola*,

Picea pinsapo,

" *pichta*,

" *nobilis*,

" *amabilis*,

" *spectabilis*,

" *Fraserii*,

" *Menziesii*,

and others. At the South, and perhaps in the Middle States, the *Sequoia Gigantea*, or Great Tree of California, should not be forgotten.

Podocarpus Japonica resembles the Irish Yew, with larger foliage, and is perfectly hardy. We could name many others, but a little study will give a longer list of trees of similar habit with the above, as well as those that follow.

II. DECIDUOUS TREES FOR THE SAME PURPOSES.

Oaks; all the varieties, but, especially, the *Overcup* and the *White Oak*.

Magnolia macrophylla, or long-leaved magnolia,

" *conspicua*,
 " *acuminata*,
 " *cordata*,
 " *auriculata*, &c.,

all the family that are hardy in your latitude.

Tulip-tree,

American Lime-tree, or *Tilia*,

Maples; most of these should be employed, but, as in the case of the single lot-holder, we recommend the *Acer Platanoides*, or *Norway*, especially.

The common *Horse-Chestnut*, and the *Red*

and *Double Chinese*. The *Buckeye* loses its leaves too early in the autumn.

Virgilia lutea, or *Yellow Wood*,

All the Robinias, or *Locusts*,

Kentucky Coffee-tree,

The Judas-tree,

The Florida Dogwood,

The Buttonwood, for some sites, would make a fine boundary,

The Mountain Ash,

The Ash-trees,

The Copper, and other *Beeches*,

The Sassafras, in groups of three and five,

The Elm, and, especially, the *Slippery Elm*, the latter forming a beautiful head,

The Hickories, on high ground,

Weeping Willows, in dells, &c.



PINUS SABINIANA.

The Aspen,
The Lombardy Poplar, in selected spots,
The White and Paper Birches,
The Liquidambar,
The Ginkgo tree,

European and American Larches,
Deciduous Cypress,
White Fringe tree,
Laburnum,
Tulip-tree.

III. TREES AND SHRUBS SUITABLE FOR INDIVIDUAL PLANTERS.

Dwarf Oaks,
Magnolia grandiflora, or Evergreen,
 " *The Glaucous,* or Swamp,
 " *tripetala,* or Umbrella-tree,
 " *conspicua,* or Chandelier-tree,
 " *purpurea,* and *Soulangeana,*
Berberies,
Mahonias,
Stuartia Virginica, and *Marylandica,*
Gordonia pubescens (formerly *Franklinia*).
The Black, or *Norway Maple;* no tree will produce a better head, or a more impenetrable shade, and, as it does not attain a great height, there is no more suitable large tree for a single lot.
Dwarf Horse-Chestnut,
Kölreuteria paniculata,
The Hop tree,
The Bladder nut tree,
Japan Euonymus, Evergreen,
The Hollies,
Venetian Sumac, or *Mist-tree,*
Virgilia lutea, or *Yellowwood,*
Spanish Broom,
The Laburnums,
The Rose Acacia,
The Bird Cherry,
Roses; select the hardest ever-blooming kinds.
The Common Ivy will spread gracefully over a lot, instead of grass, but is found, in practice, to collect the leaves in winter, and they prove difficult to displace.

The Rhododendrons, &c., which we should recommend, would be
Kalmia Latifolia, or Common Laurel,
Rhododendron maximum,
 " *catawbiense,* } succeed in the
 " *ponticum,* } shade.

These are superb bloomers, and beautiful evergreens in addition. When they attain considerable size, nothing can be more desirable.

The Common White Jasmine, and *the nudiflora,*
The Periwinkles are admirably adapted to cover the surface of graves, and to trail over the grounds.

The Halesias, or *Snowdrop trees,*
The Fringe tree,
The Copper Beech,
The Silver, Variegated, and *Golden,* and the common tree *Boxes,*
Cryptomeria Japonica,
Pinus pumilio,
Juniperus Suecica,
 " *Hibernica,*
 " *Sabiniiana,*
 " *Chinensis,*
 " *pendula,*

The Yews,
Deutzia gracilis,
The Spireas,
The Tamarisks,
Wiegela Rosea and *Amabilis,*
The Mahonias,
The Forsythia viridissima.

IV. WEEPING TREES FOR INDIVIDUAL LOTS, ETC.

Sophora Pendula, or *Weeping Sophora,*
European Weeping Ash,
Weeping Golden Ash,
 " *Mountain Ash,*
 " *Birch,*
 " *Beech,*
 " *Larch,*
 " *Elm,*
 " *Oaks,*
 " *Poplars,*
 " *Linden,*
 " *Laburnum,*
 " *Thorns,*
The Lentiscus Weeping Ash,
Frazinus lentiscifolia pendula is a fine-spreading, and somewhat drooping tree, well worthy of a place.

The Weeping Sophora, first on this list, one of the most remarkable and elegant of the drooping shrubs, is but little introduced, but we are convinced that, when it is more generally known, it will be much employed in cemeteries. The round head, and deeply-weeping, long, slender, green shoots, are quite ornamental, both in summer and winter. The foliage and flowers resemble somewhat the *White Locust* and the *Laburnum*. It could be procured in quantities from Europe, at very moderate cost, and will be, when it becomes known, extensively propagated here, where it is quite hardy.

V. HEDGE-PLANTS SUITABLE FOR THE INCLOSURE OF CEMETERY LOTS.

The American Holly will be the first choice of all who can procure it, both for its beauty and durability.

The Junipers will form a very beautiful and suitable hedge, south of Pennsylvania.

Arbor Vita, both Chinese and American, Golden, Oriental, Tartarian, and Japan, are highly suitable and ornamental for lots, especially the latter, but require annual shearing.

The Siberian Arbor Vita is particularly suitable for a cemetery hedge; of slow growth, compact habit, and requires but little trimming.

The Hemlock, treated as a hedge-plant, would be exceedingly ornamental.

The Yews, but, especially, the upright, or Irish variety.

The Buckthorn, and Berberries.

Honeysuckles, carefully attended to, are graceful and proper, particularly the Chinese Evergreen.

The Tree-Box is of slow growth, hardy, and truly superb as a cemetery hedge, requiring less attention than any other.

The Savin, with its dark-green foliage, is only second to the above.

The Evergreen Privet.

The Lilac, Syringa, Pyracantha, Snowball, and similar straggling plants, should never be allowed.

VI. VINES SUITABLE FOR THE ADORNMENT OF INDIVIDUAL LOTS.

The Clematis; most of the varieties, but, especially, the Sweet Scented, which will cover a monument or inclosure with its delicate tendrils and flowers in the most beautiful manner.

The Sweet Scented, or *Male Grape*, will run

over a tree or large shrub, and annually produce its regale of delicious odor.

The Wistarias may be used, with caution, where there is a large space or railing to entwine.

BULBS, &c.

Lily of the Valley,
Christmas Rose,
Monkshood,

Sweet Violets,
Lilies, Phlox, &c.

FOR COVERING GRAVES.

Periwinkle, or *Vinca minor*, forms a beautiful evergreen for the hillock over a grave. A little attention in keeping free from grass

and weeds will give an entirely satisfactory mound.

Moneywort and Ivy.

VINES AND SHRUBBERY FOR GENERAL PURPOSES.

The Trumpet Flowers, American and Chinese, to mount the larger trees.

Ivy, the Giant, ditto; the English is hardiest.

" *Three-Fingered*, ditto.

Aristolochia, or *Birthwort*,

The Fragrant Wild Grape,

The Evergreen Honeysuckle, and other varieties.

Jasminum Officinale, the *White Jasmine*.

The Yellow Jasmine, south of Philadelphia, would be eminently suitable for both the public and private grounds.

In the Southern States, there are many additions to these lists that will strike the planter there; our observations are made principally for the latitude of Philadelphia, but apply, in the main, to both North and South.

We find the subject has grown upon us so much that a third article will be necessary. We shall give a list of trees, shrubs, and plants, that will succeed under the shade of trees, a desideratum to many in private gardens; with a few additional remarks pertinent to the subject of cemeteries.

KING APPLE, N. Y.*

Tree of most vigorous growth, with stout limbs; bark greenish-brown, more colored in the young shoots. *Leaves* thick, large round-oblong, slightly serrated and downy beneath. The form is handsome, and this variety seems to be hardy and suited to most of our soils. *Fruit* large, round or sometimes obovate, slightly ribbed towards top. *Stem*, half an inch long, inserted in a deep smooth basin. *Eye* small, not deeply sunk, in an irregular cavity. *Core* large, seeds middle sized, differing in form and size, some abortive, in spacious capsules. *Skin* smooth, glossy dark-red with stripe of a darker red when about ripe, and covered with fine marblings of the same hue. *Flesh* firm, replete with juice; of a brisk, sprightly, vinous subacid, with sufficient sugar and flavor, making it a very refreshing fruit. Keeps well, ripens slowly, and lasts as far as April. Indeed, one of our most valuable winter apples. The fruit has much of the Esopus Spitzenburg character.

RESTALRIG HOUSE, RESIDENCE OF G. G. LOGAN,
ESQ., AT GERMANTOWN, PA.

BY R. MORRIS SMITH, ARCHITECT, 74 SOUTH FOURTH STREET, PHILADELPHIA.†

BEFORE venturing to contribute another design to the *Horticulturist*, it may be well to say a word of apology for my last little contribution (April), which was so unfortunate as to be "walked into" by the formidable "Jeffreys."

"Jeffreys" expresses his anxiety lest our "house architects" should run into extremes as to the quantity of outside wall employed to inclose a given amount of inside accommodation, and asks: "Why not have the outer walls inclose double instead of single rooms?" thus "getting MUCH more space at FAR less cost," &c. If Jeffreys will look again at the plan, he will perceive that there is provision for double chambers over the PARLOR. On the OTHER side of the hall, there are only two ways to get a double instead of the single room; first, by ADDING a room above, and one below stairs, *retaining* the back-building, and, secondly, by omitting the back-building, and making a double room in place of the single one, *the rear half doing duty as a kitchen*, thus drawing the kitchen into the main building. Is it possible that "Jeffreys" would recommend the latter course to any one who could afford the comfort of a back-building kitchen? There would, undoubtedly, be a saving thus effected, but it would be emphatically one of the description known as "dear savings." I am perfectly willing to admit that the rooms generally would be "warmer" (especially in summer) by this arrangement. I will go further, and grant that they would be much more *odoriferous*. But I cannot suppose the people of America so far behind the age as generally to build in a mode obsolete in this vicinity for twenty years, and now only used in the cheapest farm-houses, and must, therefore, suppose that "Jeffreys'" saving is to be effected in the first-mentioned way—that is, by ADDING two rooms, one above, and one below stairs! Really, the economy of such a procedure by a family who didn't want the two extra rooms is difficult to appreciate. Every one who has the slightest acquaintance with building of course knows that these extra rooms would be obtained at a less *proportional* cost than the rest, and this, no doubt, is what "Jeffreys" intends to convey, but, if he had read the descriptive article (I am perfectly aware of, and do not wish to infringe the time-honored privilege, the almost prescriptive right of critics, *not to read* the productions they select for the

* See Frontispiece of August number.

† This article was intended for the last number, to accompany the engraving, but was crowded out.—Ed.

exercise of their aoumen, but still, I say, if, as an act of condescension entirely, he had read the article), he would have found that the house is therein described particularly as an attempt to obtain, at a minimum cost, accommodation for a *small* family requiring only the *given* number of rooms, for whom to have increased that number, and with it (though in a less proportion) the cost, would have been like the economy of the boy who fills his pockets with cheap things he does not want, BECAUSE they are cheap. As for the flat cornices (which "Jeffreys" comically calls "water-tables!") and which, he informs us, "subject the roof-water to detention and frost, and, in consequence, to leakage, which will stain and injure the walls!"), is it possible he can be ignorant that this description of cornice (with a sunk gutter formed in it just outside the wall, and below the rake of rafters) is universally in favor for use with flat tin roofs, *for the express purpose of preventing the leakage* which is apt to occur in such roofs with the ordinary roof-gutter, owing to its backing the water up on the roof. Further on, he expresses his disapprobation of the "reform in architecture," and his belief that, in ten years, the public will return to the "old-fashioned square house." I hope "Jeffreys" is not going to embark his ability and information, as an architectural critic, in a crusade against the reform in architecture, and undo the ~~expensive~~ labors of Downing, and many others, by throwing us back to the old-fashioned square house.

As to the plan in the last number, there is little to remark in it beyond the attempt, by the peculiar dormers (which are uncommonly pleasant internally), to give a picturesque variety to the stale outline of the "old-fashioned square house." The roof-water, from the bay-between the dormers, is conducted by a lead-pipe built into the wall down to the veranda-roof. That from the corner bay, by the usual corner conductor, to the ground. The rest of the roof-water is collected in a cistern, which gives a head in every room in the house. The plan is a slight variation on the "old-fashioned square house," and ought, therefore, to propitiate "Jeffreys." The proportions of the rooms are not quite as I could have wished to have had them, the plan being, in some measure, imposed upon me by the circumstance of the house having been already commenced when I was called to superintend it. It possesses, however, the compactness, and a certain dignity, which "Jeffreys" rightly ascribes to the old square form of house. The want of length in dining-room is somewhat compensated by its capability of being thrown into one with the library; the bay-window is uncommonly effective; internally, the pantry is convenient, and it is altogether a very enjoyable house. It might be built cheaply, or moderately, for from \$5,000 to \$8,000. As executed, it stands on a noble ancient manor, near Philadelphia.

ROOTS.

In a former number, page 71, we commenced to make some remarks on roots, a subject which has more interest, perhaps, to the planter than any other, but which is very generally neglected; carelessness marks the *placing* of the part on which the vitality of the tree is mainly to depend. A critic remarks, on the continually absorbing power of the roots, that the simile of a wick of a candle is certainly one of the most appropriate. The wick (as well as the spongioles of the root), by its hygrometric quality, conducts fluids to the flame, only the spongioles, being continually renewed by their constant formation onwards, are permanent. If cut, they will bleed, and occasionally discharge sap in abundance. A case is mentioned of a very fine birch-tree, whose roots were cut through in making a new walk near it. They were about five in number, and averaged about an inch and a half in diameter, and continued bleeding so incessantly for a fortnight, that

the walk, at the end of that time, stood in puddles, and the sap still bubbled up through the gravel. On examining the roots with an ordinary microscope, the discharge will be found to proceed from the whole of the exposed cells through the section, and bubbles of air are frequently formed on the cut surface, evidently showing that some kind of gas was present, either in the sap or in the cells.

Such cases are doubtless much more common than is supposed. The sunflower, bulk for bulk, imbibes and perspires seventeen more times fresh liquor than a man, every twenty-four hours. A tree may be assumed to be a combination of hollow tubes, freely communicating with each other, and inclosed in a skin through which fluids are capable of being absorbed on the one hand, and expelled on the other. If we conceive a body of this kind, in which the tubes are nearly empty, to have its lower extremity plunged in water, the absorbing power of the skin at that part will begin to introduce the water into the interior, and this continuing to go on for a sufficient time, the tubes must necessarily become at last filled with water, rising up from below. To effect this, no attracting force at the upper end of the cylinder was necessary; every particle of water which was absorbed by the lower end having driven before it a corresponding volume of the water previously existing in the apparatus. Under the influence of this operation, the tubes would in time become full, and if unelastic, the introduction of more water would be impossible. But if such tubes, and the skin that incloses them, were elastic and extensible, then any such quantity of water might be introduced as the apparatus could receive without bursting. If we, then, suppose that the one end of the apparatus were cut open, the sides of the tubes would collapse, and the water would be forced out till there was no more left than the tubes held in their original unstretched condition. A tree is just such an apparatus. Its tubes are nearly empty at the fall of the leaf. During winter, the roots absorb water, and fill the tubes again. By the arrival of spring, they are filled almost to bursting, and then, if the stem is cut, it bleeds; or, if the roots are cut, they bleed. Bleeding ceases as the leaves unfold. The vine, the walnut, and the birch, are all as incapable of bleeding as other trees, when their leaves are formed; because the leaves gradually empty the tubes, put an end to their distension, and prevent its recurrence as long as they remain in an active state.

The excessive loss of sap would not have taken place if the roots had been wounded or cut in the summer or autumn. In the adjoining cut (Fig. 1) is represented a tree ready for removal, with the rootlets carefully preserved from injury, which should be done whenever practicable, but in practice these rootlets are too often destroyed; and, in that case, it would have been better to cut them while the tree had its leaves on it the summer previous to the intended removal.

There is no period of the year when the roots become altogether inactive, say Professor Lindley

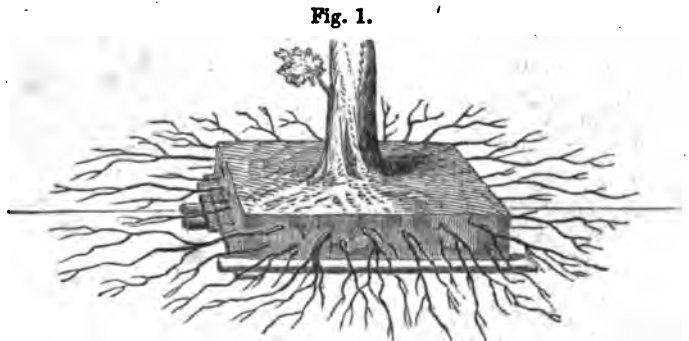


Fig. 1.

and other authorities, except when they are actually frozen. At all other times during the winter, they are perpetually attracting food from the earth, and conveying it into the interior of the plant, where, at that season, it is stored up till it is required by the young shoots of the succeeding year. The whole tissue of a plant will therefore become distended with fluid by the return of spring, and the degree of distension will be in proportion to the mildness and length of the preceding winter. As the new shoots of spring are vigorous or feeble in proportion to the quantity of food that may be prepared for them, it follows that the longer the period of rest from growth, the more vigorous the vegetation of a plant will become when once renewed, if that period is not excessively protracted.

No plants which are expected to attain a large size should ever be grown in pots, but should be treated on the same principle as our common forest-trees, with this difference, that they never should be allowed to remain more than two years, and, in some cases, not so much, without being transplanted, by which means the main roots would radiate naturally from the common centre, as in Fig. 2, and become sufficiently numerous to insure a ball of earth to adhere to them. Plants would thus be furnished of a very superior quality, and at a much cheaper rate than those mutilated and expensive deformities nurtured in pots.

In our next figure (Fig. 3) is represented a tree circumscribed by the limits of pot culture. In the former, the roots are extending in all directions near the surface in search of food; in the latter, they have a direct tendency downwards, where they neither can derive food, nor, from their position, have the same effect as the former in maintaining the perpendicular position of the tree. Camellias will be found in such and worse conditions, where care has not been taken at shifting to disentangle them; and afford them more space for their horizontal extension.

Our next figure (Fig. 4) shows the state of a fruit or forest-tree, subjected, in early life, to pot culture; where the roots have been most confined and contorted,

Fig. 2.



Fig. 3.



Fig. 4.



the supply of sap thrown into the side of the tree immediately above them has been limited and irregular, as seen by the smaller and irregular portions of the annular rings in the transverse section of the trunk; whereas, again, where the

root, *a*, has had the means of penetrating deeper into the soil, and, consequently, been able to collect a greater amount of sap food, the annular rings above it are larger, and more uniform in size. Sickliness, deformity, and premature death are the results. The greatest care should be employed, in planting such a specimen, to disentangle and spread the roots carefully. The Cedar of Lebanon is frequently planted from pots, and this is one reason we see such poor specimens in this country.

Where the corkscrew, or spiral direction has been once taken by the roots, they are very apt to retain it during their lives; and if, when they have become large trees, they are exposed to a gale of wind, they readily blow out of the ground, as was continually the case with a number of rare evergreens formerly kept for sale in pots. To prevent the possibility of this occurrence, it is a good plan to place trees intended for transplantation in old baskets. Through their wicker sides the roots readily penetrate, and when this has happened, the half-decayed baskets are lifted, and "potted" in other baskets, of a larger size.

The adjoining cut (Fig. 5) is a sketch of a root of a Laricio after having been planted ten years, illustrating the effects of corkscrewing better than any description.

Fig. 5.



VISITS TO COUNTRY PLACES, NO. 2. AROUND NEW YORK.

TAKING a carriage at New Brighton, we first called upon Mr. William Chorlton, an esteemed correspondent, gardener to John C. Greene, Esq. Mr. Chorlton has under his charge twelve acres, two acres of which are vegetable garden, four acres pleasure-grounds, consisting of lawns, flower-bed, and shrubberies, and six acres of pasture-land and meadows, that supply three cows with food the year round. The whole is in the nicest order, sufficiently so to satisfy the most fastidious. The views of the Bay of New York are exquisitely beautiful, and advantage is judiciously taken, in the planting, to conceal defects, and open the finest vistas. Altogether, the scene about the house presents an appearance of rural luxury and ease, and though so near to neighbors as the place is, it is, for all purposes of privacy, complete.

There are four plant houses, from which are produced a very fine show of regular succession flowers. The camellia house is seventy-eight feet long, and is filled with large and fine plants, from which were cut, last winter, some four thousand flowers. The vineries are devoted to the grape entirely, and produce an average of 1,500 pounds of the finest quality, which have always taken the first prizes

when exhibited. Including cold frames, in which are grown Neapolitan violets, and many other fragrant plants, there is, at Mr. Greene's, a total of 8,000 square feet of glass. Mr. C. cuts the lawns every two weeks, excepting in very severe droughts, and we found them in the highest keeping. Beyond a doubt, there might be a great saving of labor, here as elsewhere, by employing H. N. Swift's improved lawn-mower, made by him at Fishkill Landing, New York, respecting which we shall have more to say hereafter. For this amount of ground and glass, Mr. C. has, besides himself, two regular assistants, and two others for about eight months. The whole produce of this highly beautiful place is made use of by the proprietor's family, excepting a liberal supply which he generously distributes among his friends, but, were it to be sold, Mr. Chorlton has no doubt the aggregate value would amount to 3,500 or 4,000 dollars annually, at wholesale prices, besides the grounds being always kept in the nicest order. Here are valuable results for imitation, exhibiting Mr. Chorlton in the character of a master of his business. Mr. Greene resides here only during the summer.

We next called at the country residence of J. Q. Jones, Esq., whose gardener, Mr. Edward Decker, also occasionally enlivens our pages with his facts. The place is small, being about an acre and a half, but it is "well tilled, and well filled." There are two small plant-houses, and a quantity of frames, that supply abundance of winter salad, and a very good quantity of succession flowers; the vegetable department is about one-half acre, but from this small plot is obtained enough of the finest edibles for the use of the family. The remainder is lawn, shrubs, and flowers, which is kept in admirable condition, and does great credit to the gardener, who is a talented and persevering man, well qualified for the charge of an extensive establishment. He has a little assistance in spring, but manages by himself the remainder of the year. Mr. Jones's place has an air of domestic comfort and family repose highly attractive. These two places are within walking distance of the New Brighton ferry.

We next called at the place of ——— McCall, Esq. (John Nichol, gardener). This spot has become one of the most improved in the neighborhood. The owner has not hesitated in making a judicious outlay. He encountered many difficulties from the nature of the situation, which is rather low, but, with effectual drainage and good and deep tillage, these difficulties have been surmounted, and his success is proof of what may be accomplished in many similar cases. Here we found a good vegetable garden, a fine collection of fruit-trees, with a well kept lawn, and flowers and shrubbery. There is also about 6,000 feet of glass, consisting of a small conservatory attached to the dwelling, a warm greenhouse, forty feet in length, and a newly erected range of four connected houses, divided into two graperies and two plant-houses; the whole, extremely convenient and artistic, were designed by Mr. Chorlton, the object being to combine utility with beauty in appearance, which in this case has been accomplished, the structure being one of the handsomest we have lately seen. It was quite new—the grapes lately planted, and the greenhouses nearly unfurnished. When filled, the "expression of purpose" will add materially to the effect.

After calling on some friends, who were all in the pursuit of horticultural projects, looking over their newly-planted trees, or projecting new structures, we called at "the Cedars," the country residence of a schoolmate in days gone by, Samuel T. Jones, Esq. His place is on very high ground, overlooking, from the drawing-room windows, the bay and city of New York; and, from the dining-room, the ocean is seen in the distance, with Long Island, and the intervening waters and islands, at your feet; altogether one of the loveliest spots on this or any other island. Mr. Jones has left, with good taste, the original growth of wood, consist-

ing mostly of the native cedar, which here assumes an erect and highly beautiful form; the roads and walks are in fine condition, and the lawn promises soon to be such as any one might envy. We think Mr. J. should employ the improved lawn-mower, in order to economize time. His specialties are grapes and a fruit garden, and certainly there is no better example than both exhibit. His large grapery is a "Lean-to" to the house, and produces, with his own and his gardener's care, as fine grapes as are ever eaten. The border outside is an example of extreme neatness. Fruit from this house we have partaken of in former years, when we thought nothing *could be finer*.

The fruit garden here is a model which we should like all our amateur friends to imitate. The peach-trees are of sixteen years' growth, and enormous specimens, some on espaliers, and others in the open ground, but headed back annually. The pears, dwarf and standard, receive the best treatment; these, and the peaches, have scarcely felt the last severe winter, and give promise of a good crop; both pears and peaches receive spring and fall dressings of guano—a handful to a small tree, and more to a large—mixed with plaster; this is dug in in the fall, and the whole covered all winter with a good mulching of stable manure. Here is the whole treatment; we venture to say, no garden in America can exhibit better fruit, which is so abundant, that it has often to be buried in the earth to prevent its becoming a nuisance! With the New York market so near, this should not be; better give it away than destroy it. The whole garden here is dug over before winter, and left in its rough state for the frosts to plough through the ground and pulverize it.

We could dwell long on the beauty of these Staten Island sites, the kind and generous hospitality of its inhabitants, describe Mr. Aspinwall's noble mansion and fine views, but we are called to visit the beauties of the North River, and, in these hasty remarks, must endeavor to be concise.

TREATMENT OF WINTER PEARS.

BY D. S. DEWEY, HARTFORD, CONNECTICUT.

It is now generally conceded, I believe, that the pear world *does* "move." Seeing is believing, so far as it goes; eating, is proof positive. Delicious winter pears *are raised*; not merely as "tasters," by the half-dozen or so, but by the bushel; and preserved, too, in good condition, for months. But, as scepticism on this subject is not wholly removed from the public mind, and as the subject is one of some importance, additional evidence in the matter may not be deemed unworthy of record.

On the evening of the 22d of February last, a few horticultural friends of the worthy Ex-President of our Society—Alfred Smith, Esq.—met him, by appointment, at his residence, to witness some of the results of his judicious experiments in raising and keeping winter pears. He placed before us a superb collection of the three following varieties: Beurré d'Aremberg, Winter Nelis, and Glout Moreau. They were truly beautiful to the sight, and delicious to the taste, and were not only well developed in color, but also in form, having, apparently, lost but little, if any, of their original fulness of outline.

In answer to the very natural inquiry which immediately arises, as to the cause of such success, I submit the following brief rule, in Mr. Smith's own words: "Pick late, and keep cool."

His practice is to allow his pears to remain on the trees much longer than had generally been supposed advisable.*

His Winter Nelis were gathered until the 20th of November, 1855—Beurré d'Arenburg and Glout Morceau on the 10th of November.†

The fruit is, of course, very carefully handled in picking, and then put into baskets and boxes, and placed in a cool room, over a shed, which can be well ventilated and well closed at proper times. When winter has evidently "set in,"‡ the pears are all carefully examined, and put into boxes,§ say one or two tiers in a box, and removed to a room on the first floor of the dwelling-house, in the northwest corner, adjoining a hall which is always moderately warm. The temperature of this fruit-room, for the present winter, has been about 40°—the average a trifle less.

The Beurré d'Arenbergs are on pear stocks (i. e., grafted on old trees), the Glout Morceau on quince, and the Winter Nelis double-worked, the last two being about twelve years from the bud.||

These pears have gradually ripened, and become in good eating condition—a few every day—for a period of three months. None of them were brought out, to ripen, into a room of a warmer temperature. Mr. Smith's opinion is that the B. d'A. does not need such treatment, although he admits that the Winter Nelis and Glout Morceau might be somewhat improved by it.

One word about another pear, the Beurré Diel. Mr. S. grows this both on pear and quince. The difference, in his opinion, in the quality of the fruit, is not very great. Those on quince are, perhaps, more melting, and of somewhat better flavor; those on pear closer-grained, and later keepers. Some few of his Beurré Diels were preserved through January; in fact, the very last one was eaten on the tenth day of February!

WARDIAN CASE AND AQUARIUM COMBINED.

Not being aware that a fresh-water aquarium has before been connected with a Wardian Case, I beg to furnish you with a sketch of a contrivance combining the two, which I have had in operation for some time.

The apparatus consists of four parts, made of flint glass, with a little cobalt to give it a tinge of blue. Contrivances of this kind are made of various sizes. In the one from which the sketch was taken, the tank which contains the water in

* In this connection, the action of frost; the flow and elaboration of sap, before and after the fall of the leaves; the inspissation of saccharine and preservative particles, as connected with the exudation of aqueous matter; the absorption and exhalation of gases, &c., were briefly discussed, and may form the material of a future communication. Meanwhile, this branch of the subject is particularly commended to the attention of the numerous readers and correspondents of the *Horticulturist*, many of whom are doubtless well qualified to impart much valuable information derived from recent developments and experiments.

† Differences in latitude, and variety in seasons, will bear very materially upon this point.

‡ Pears removed to house 29th of December, 1855.

§ The boxes are mostly round ones, with close-fitting covers; of the form and dimensions of large cheese-boxes.

|| As regards the Winter Nelis, the fact, as above stated, might mislead some as to the necessity of its being double-worked. Such, I think, is not the case. It is one of those valuable pears which, in addition to its other good qualities, generally succeeds well, either on pear or on quince, or on both.

which are the aquatic plants, fishes, mollusks, and insects, is about twelve inches in diameter, and about nine inches deep; near the top in the inside is a flange, with a groove, into which runs the condensed water from the bell-glass, which forms the Wardian Case for the ferns, lycopods, &c.; from this groove it descends to the tank below. Into the centre of this vessel I put the glass pedestal. I then cover the bottom with about two and a half inches of fresh, but not very rich, soil, in which I plant my aquatics; I use for this purpose, *Valisneria spiralis*, *Aponogeton distachyon*, *Nymphaea odorata minor*, and *N. macrantha*. On the soil I put one inch of well-washed flints, or sea gravel, which prevents the insects, or mollusks, from making the water foul. I then introduce the water through a fine rose, to about four or five inches deep, into which I put gold fish (small), or sticklebacks, or any other small fish, mollusks, *Succinea putris*, *Planorbis corneus*, *carinatus*, and *marginalis*, *Cyclas rivicola*, and *cornea*; insects—any species of colymbetes, hygrotæ, hadaticus, gyrinus, and several other aquatic genera; care must be taken not to introduce any of the large carnivorous larvæ. I then prepare for introducing the plants proper for a small Wardian Case. I put the soil into a blue glass dish, with a rim at the bottom to keep it steady on the pedestal; this dish is one and a half inch deep by seven in diameter, the soil is raised in the centre about two inches; in this I plant the tallest ferns or lycopods, and the smaller round the edge of the dish. The ferns I plant are *Adiantum capillus veneris*, *Lastrea dilatata* Schofieldi, a beautiful small Yorkshire variety; *Asplenium viride* and *trichomanes*; *Asplenium fontanum*, &c.; Lycopods *Wildenovi*, *umbrosum*, *stoloniferum*, *mutabile*, *densum*, and *lepidophyllum*. When planted, I cover the soil, in imitation of rockwork, with agates and pebbles of any sort. I then give the whole a good watering before placing the dish on the pedestal; the whole is then covered with the bell-glass. One before me at the present time has been standing in a window eight months; the water has never been changed, or any addition made, except a small quantity once given to the ferns, &c., in the dish. Should the water become green, in the summer, a small piece of gutta percha pipe, with a small rose at the



end, will draw off the water, which may be replaced. The bell-glass may likewise be removed, with benefit to the plants, and a sprinkling of water given them.—*Henry Buines, York, England, in Gardener's Chronicle.*

THE WHITE DOYENNE PEAR, AND ITS ENEMY.

BY JOHN B. EATON, BUFFALO, NEW YORK.

It has been the custom with us, in Western New York, as far back as my recollection extends, to compare all other pears with the White Doyenné. It has been, by common consent, considered the standard of excellence, and, until very recently, it was by most persons considered as having no equal. Even now, it is with difficulty that any pear is conceded to be its superior.

Such being its reputation here, and it being well known that, while Eastern pomologists found great difficulty in growing it in perfection, they still retained vivid recollections of its many excellences, numberless cultivators planted trees to a greater or less extent, feeling certain that, if the demand at home should not keep pace with the supply, there was always a good price and a ready sale awaiting them in New York.

It being the favorite theory with many cultivators, that the cracking of the fruit was owing to a want of some constituent in the soil, which had been abstracted by long cultivation, it was supposed by many, and asserted by some, that in the deep and fertile soils of the West, it would be many years before the enemy, which had almost driven it from the Eastern orchards, would follow it to the banks of the Genesee and the Niagara. The fact that, in some cases, fair fruit had been produced on trees which had formerly borne only diseased specimens, and which had been subjected to a severe process of pruning, both root and top, and "renovation" of the soil, naturally strengthened this supposition, and many pear orchards have been planted within a few years, some with the White Doyenné alone, and some with a large proportion of this variety.

It is a number of years since the fruit in this vicinity began to give indications of the presence of the disease which had proved so disastrous elsewhere. For some time, it was chiefly confined to individual trees, generally under poor cultivation, or quite neglected. In some cases, the "renovating" system was tried on such specimens, with different degrees of success, and I have known a few trees which were for some years quite free from the pest, after having been well pruned and cultivated.

The disease has been, however, continually increasing. It has been for some years a matter of custom with cultivators who possessed many trees to select from their annual crop a large proportion of cracked and spotted fruit, since it was found that, if all were allowed to ripen together, much fruit, which was stored in an apparently perfect state, was sure to become affected from the contact of that which was unsound.

For two or three years past, I have closely observed the various phases which this malady has assumed, and have made some experiments with trees which were affected, in order to prevent, if possible, the destruction of the crop, but never with entire success. I tried the "renovation" system, to a greater or less extent, on a number of trees. In one case, I effected some improvement in the fruit, but, usually, the application of the various ingredients which were recommended was of no use. During the last season, I examined nearly every fruiting tree that came under my notice, and I cannot now call to mind more than two or three which bore uniformly perfect specimens. Many cultivators with whom I conversed

stated that their fruit was nearly all affected, and rarely one claimed to be even measurably exempt.

The conclusion to which I was forced to arrive was, that the "exhaustion" theory is incorrect, for I have seen many trees fruiting for the first time, and on land which never grew a pear-tree before, bearing cracked fruit under as good cultivation as pear-trees ordinarily require, and far better than they frequently receive. The "running out" theory I have always considered as being more ingenious than plausible, and not sustained by the facts.

The fungus which occasions the disease I conceive to be somewhat similar to that which causes the mildew in grapes, and the minute particles by which it is disseminated being carried by currents of air in contact with the fruit, will account for its rapid increase. The fruit borne by aged or diseased trees naturally affords a more suitable situation for the growth of the fungus than the vigorous and rapidly swelling specimens produced by young, healthy, and highly cultivated trees; and while the former falls an easy prey to its ravages, and becomes so entirely covered with it as to crack in all directions, the latter exhibits but a few spots of mildew upon the surface. It frequently happens, however, that these fruits, which appear but slightly affected when gathered, will be found, when ripe, to have gained a large accession of mildew, and to be utterly uneatable, in consequence of the intense and sickening bitterness with which they are impregnated.

I have found no difference in the liability of dwarf and standard trees to become attacked, although Mr. Hovey, in a late number of the *Fruits of America*, gives it as the result of his experience that the fruit on dwarf-trees remains unhurt, while that on standards, in the immediate vicinity, is destroyed.

This is already a serious matter, involving the loss of large sums to those who have planted largely of the White Doyenné, and a remedy is of great importance. Who can discover one? It is an established fact, that the fumes of sulphur are of great benefit in preventing the ravages of the mildew in graperies, but it would be no easy matter to fumigate an orchard, or even a single large tree, effectually.

Shall we have a remedy? or must we abandon the White Doyenné? I confess to a desire to see this subject discussed by more experienced pear-growers, and to know the results of their experiments.

Remarks.—The White Doyenné, in Pennsylvania, became utterly worthless long before we heard of its injury nearer the sea, in New York City and neighborhood. Some fruit of our own was as hard as a ripe walnut, cracked, shrivelled, and unworthy the patronage even of a pig; "renovating the outcast" produced no more good than confining an old rogue in the penitentiary. Not discouraged, we planted young, vigorous standards, and the result, with the best cultivation, was the same as Mr. Eaton has described. Has the salt air anything to do with this? Will salt at the root, in suitable quantities, do anything for this as it has for some other fruits. We advise a trial, and know no better experimenter than our correspondent. There is no proof that fungi exist in solutions of sulphur; seeds will vegetate in crude sulphur, but this is insoluble in water; in an impalpable powder, it is a deadly poison to those parasitic moulds which grow on the vine, the hop, the peach, and the rose, &c. Pereira says that a few grains of sulphate of soda, put into a bottle with a fermentable juice, are equally efficacious, the acid decomposing the salt, which evolves sulphurous acid. Bisulphate of soda destroys the curious vegetable production which attacks the stomach. Caustic soda is efficacious in the case of fungi, which attack cereals; the combination of carbonate of lime with sulphate of soda, by which caustic soda is set free on the combination of the sulphuric acid with the lime, should be experimented with. Here is a field which might be profitably investigated till we obtain control over this scourge.—ED.

PLAIN, PRACTICABLE DIRECTIONS FOR DRAINING, SUBSOILING, AND PREPARING AN ACRE OF GROUND SUITABLE FOR A GARDEN OR A FRUIT-TREE ORCHARD.

BY WILLIAM REED, ELIZABETHTOWN, N. J.

It may be considered presumptuous in me to say anything about draining, when we have so many treatises by scientific men, who have given us a history of all the newest improvements and various methods in practice at the present day. To enter into a discussion on the various systems is not the object that I have in view, but simply to give directions for performing the work effectually.

We will suppose the ground to be drained, nearly level, or with a fall of two to three feet to the 100, more or less; the first thing to be done is to secure an outlet, or main trunk drain, to carry the water out of the parallel drains, which ought to be, if possible, not less than three feet, although two feet to thirty inches, if no greater depth can be got, will answer when the ground is ascending, as the depth will be gained after digging the parallel drains a short distance. It is sometimes necessary, to get an outlet to the trunk drains, to dig some distance to get a fall to carry the water off, but, without this, the whole labor would be lost. An open ditch will answer for this purpose, or a tile drain, where there is much water to carry off; the tile ought not to be less than four inches diameter; the Ω , or tube tile O ; either will answer, but, for a soft, sandy bottom, the tube tile is preferable, on account of settling. After the trunk drain has been made, then measure off the parallel drains to lead into the trunk drain, twenty-five to thirty feet distant from each drain. These ought not to be less than thirty-three inches, but three feet will be better where there is only surface water to be carried off; three feet deep at this width will answer the purpose perfectly well, but, on hilly ground, where there are springs flowing out on the surface, it will be necessary, sometimes, to sink them deeper, to tap the vein of sand that the water flows from, and carry it off below the surface.

The usual way, and the quickest, is to stretch a line in the direction that the drain is to be dug, and mark it with the spade, as a guide to dig by, on both sides; twenty inches or two feet wide, on the top, will answer for drains of this depth, and let them draw in gradually, so that, when finished, they are wide enough to let a spade or narrow shovel run in the bottom; narrow spades are sometimes used for the last spit, made expressly for this purpose, with a small scraper to take up the bottom. A narrow No. 1 spade, with a long handle, I think is equally as good, and leaves a smoother bottom for the tile. Where grounds are limited, draining is always done with spades; the two first spits being good, soil is put on one side which will take out twenty inches to two feet; if the shoveling has been taken clean out after each spit, then the bottom, the poorest of the soil is laid on the opposite side, to be first filled in on the tiles, leaving the best soil for the top. The cost of digging will depend on the kind of soil; if the bottom spit is hard, so that the pick has to be used, it will make a material difference in the expense; fifty feet a day for a man, including laying tile and filling in the earth, will be as much as he will be able to do, if the bottom proves hard; but, where the digging is easy, and the ground soft, he will accomplish seventy-five to one hundred feet, when the depth does not exceed thirty-three inches to three feet; it requires about 1,400 feet to drain an acre thoroughly, and the same number two-inch drawn tile;

the Ω , or tube tile, may be used, should the bottom be soft; tube tile is the best. The Ω tiles, where the bottom is hard, require nothing under them, but, in spongy, soft spots, to keep them from sinking, a piece of board is sometimes used; the usual price of two-inch tile is ten dollars per 1,000; the larger size, three to four inches, twelve to fifteen dollars; each tile lays a foot good measure; when the ground is flat, and nearly level, the person digging must be careful to carry the bottom the proper depth, which can easily be done by those that are accustomed to the work by the eye; it ought never to be dug so that the water will stand, but have a gentle fall, enough to carry it all off; the tiles, also, require to be laid as close as the joints will permit, to prevent the earth from falling through, which would impede the run of the water on the tile; care must also be used when connecting the parallel drains with the trunk or main drain, which can be done by breaking out a small piece of the tile with a hammer or pick, covering it up carefully with pieces of broken tiles, so that no obstruction may be made to the water running freely out of the parallel drains. Some people put a few shavings or straw over the tiles before filling in the earth; if they are to be had conveniently, they will do no harm, but it is not very essential. If the tiles have been carefully laid, this form of draining is the most simple and effectual, and never fails to dry the ground of both surface and spring water, as it is impossible to miss any spring, if the drains are run parallel all through the ground.

When stones are in the way, they may be used in the place of tiles, but not otherwise, as the cost of carting and filling will be more than the cost of tiles; when used, they are sometimes, if of small size, filled in ten to twelve inches in depth, but, when the run of water is great, they are generally made by laying stones on each side, and covering with a flat one on the top, then, filling over this six inches of small stones, which makes a capital drain; the cost, however, is double the expense of tile.

Where neither stone nor tiles are to be had, brush is sometimes used, and, if well-packed and cut up, so that it will pack very close together, say eight to ten inches in depth, will run water very well, and last for a number of years, if the outlet is kept clear. Where grounds are extensive and rolling, and the grade falling off in different directions, it will be necessary, sometimes, on account of its level, to make more than one trunk drain, but, in whatever way the ground may be, the same system may be used to any extent, where labor is an object; and, for farming purposes, the digging might be nearly saved by using the plough and subsoil. I am satisfied that drains three feet deep may be all done with horses, except the bottom spit, which would require the spade; the filling-in of the earth can be done in the same way, and one-half the expense saved.

Draining is not necessary in all soils, but only in such as are of heavy clay, with a hard subsoil, or in wet, spongy grounds. Where the subsoil is gravelly and porous, and leaves no water on the surface after heavy rains in summer, draining is not required. I find that, on heavy soils, plants suffer much more from heavy rains in summer than in the winter, if undrained, there being no other way for it to dry but by evaporation, and, before this takes place, the water in the soil becomes putrid, particularly in warm weather; but, when this kind of ground is under-drained, the drains run out the water from below, and the surface dries rapidly by the sun, so that, in two days after the heaviest rain, the ground will be in working order.

Undrained grounds, again, in the winter and spring, are very injurious to the roots of trees, grass, and all kinds of grain, causing them to lift out of the ground with frost, and leaving the roots exposed, and (almost sure) a great part of them to perish.

Having extended these notes on draining to a greater length than I intended, I will now close with a few brief remarks on the preparation of the soil.

The ground we will suppose to have been all under-drained, and all the grading and levelling that the ground requires to take out all the inequalities, to have been finished; this is better to be done before subsoiling than afterwards, which leaves all the ground of regular depth; if done afterwards, there would be some places not so deep as others. Then apply twenty cords of good barnyard manure, with two hundred bushels of air-slaked lime, spreading it regularly over the surface; this will make it ready for the plough and subsoil. To do this well, it requires a good, strong span of horses or cattle; but, when to be had conveniently, four would be better than two, particularly when the subsoil is hard. The best way to have this done well, is to make openings with the plough, by ploughing out the first furrows thirty feet apart; then commence with the subsoil plough first in the bottom of the open furrow, which will leave nothing undone, as would be the case if these furrows were not thoroughly opened; with a good plough and subsoil, now keep going round, and working into this until a fair opening is made, which will be in the course of three or four rounds; furrows ought not to be taken more than ten inches to a foot wide, to enable the subsoil plough to break up the bottom well. Half an acre a day for one team is quite enough, if the work is well and regularly done, which ought to be fifteen to sixteen inches deep; one span of horses will break up this depth. The first furrow to be made with the common plough, going round both sides; the subsoil plough being at hand, slip the horses on the subsoil, and follow round in the same furrow; this causes very little delay when once fairly commenced, but, when two teams are at hand, this of course would not be necessary; by continuing this fifteen feet on each side of the furrow, will finish a land, making it thirty feet wide; then commence again on the next, and so through the whole piece to be ploughed; the harrowing and levelling the ground afterwards completes the whole operation. It can then be laid out in whatever form or shape the proprietor may wish for a garden, fruit orchard, or a lawn; and, if the work has been thoroughly done, according to the directions here given, I have no hesitation in saying it will be in fit condition to grow any kind of crop; on grounds of limited dimensions, the spade may be used in place of the plough.

[This is all plain and practical. Mr. Reed's own nursery grounds are an evidence of success that we are always pleased with an opportunity of pointing out.—*Ed.*]

THE PEAR SLUG-WORM.

BY MISS MARGARETTA MORRIS, GERMANTOWN, PA.

The slug-fly is of a glossy black color, except the first two pairs of legs, which are dirty yellow or clay colored, with blackish thighs; and the hind legs, which are dull black, with clay colored knees. The wings are somewhat convex and rumpled or uneven on the upper side, like the wings of the sand-flies generally. They are transparent, reflecting the changeable colors of the rainbow, and have a smoky tinge, forming a cloud or broad band across the middle of the first pair; the veins are brownish. The body of the female measures rather more than one-fifth of an inch in length; that of the male is smaller. In the year 1828 these sand-flies were observed on the cherry and plum-trees, in Milton, Mass., on the tenth of May, but they usually appear towards the end of May or early in June. Soon afterwards some of them begin to lay their eggs, and all of them

finish this business and disappear within the space of three weeks. Their eggs are placed, singly, within little semicircular incisions through the skin of the leaf, and generally on the lower side of it. The flies have not the timidity of many other insects, and are not easily disturbed while laying their eggs. On the fourteenth day afterwards, the eggs begin to hatch, and the young slug-worms continue to come forth from the fifth of June to the twentieth of July, according as the flies have appeared early or late in the spring. At first the slugs are white; but a slimy matter soon oozes out of their skin and covers their backs with an olive-colored sticky coat.

They have twenty very short legs, or a pair under each segment of the body, except the fourth and the last. The largest of the slugs are about nine-twentieths of an inch in length when fully grown.

The head of a dark chestnut color, is small, and entirely concealed under the forepart of the body.

They are largest before, and taper behind, and in form somewhat resemble minute tadpoles.

They have the faculty of swelling out the forepart of the body, and resting with the tail up.

These slugs live mostly on the upper side of the leaves, and eat away the substance, leaving only the veins and skins untouched. The trees attacked by them are forced to throw out new leaves during the heat of the summer; this unseasonable foliage, which should not have appeared until the following spring, exhausts the vigor of the trees and cuts off the prospect of fruit.

The slug-worms come to their growth in twenty-six days, during which period they cast their skins five times. After the last skin is thrown off, they no longer retain their slimy appearance and olive color, but have a clear yellow skin, entirely free from viscosity. They change also in form and become proportionably longer, and their head and the marks between the rings are plainly to be seen. In a few hours after this change, they leave the trees, and having crept or fallen to the ground, they burrow to the depth of from one inch to three or four inches in the ground, according to the nature of the soil. By moving their bodies, the earth around them becomes pressed equally on both sides, and an oblong oval cavity is thus formed, and is afterwards lined with a sticky and glossy substance, to which the grains of earth closely adhere. Within these little earthen cells or cocoons the change to chrysalids takes place; and in sixteen days after the descent of the slug-worms, they finish their transformations, break open their cells and crawl to the surface of the ground, where they appear in the fly form. These flies usually come forth between the middle of July and the first of August, and lay their eggs for a second brood of slug-worms. The latter come to their growth, and go into the ground in September and October, and remain there till the following spring, when they change to flies.

It seems that all do not finish their transformations at this time; some are found to remain unchanged in the ground till the following year; so that if all the slugs of any one hatch should happen to be destroyed, enough from a former brood would remain in the earth to continue the species.

Ashes and quicklime, sifted on the trees by means of a sieve fastened to a pole, was recommended by the late Hon. John Lowell, of Roxbury, for the destruction of the pear and cherry slug-worm, and it is found to answer the purpose.

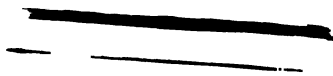
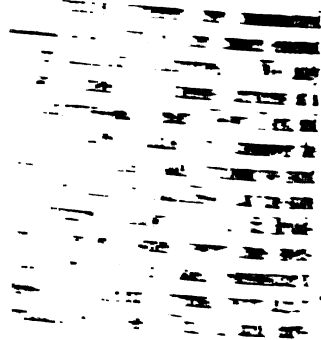




Fig. 3.

of beautiful carved work. An elaborate arm-chair, of which we also give a design, is represented by Fig. 3.

In consequence of Mr. Albinola not having a warehouse to display these objects, they have not made their way to the general knowledge of the public, and as they are bulky and heavy, it will be too expensive even to expect another importation of them, unless it is through special orders.

The getting of these engravings has been tedious and expensive, and but for our wish to present agreeable and novel objects for rural embellishment, we should not have willingly undertaken to make them thus known. The carving is deep and bold, and many of the articles will be much admired by the tasteful amateur.

CULTURE OF THE HELIOTROPE FOR WINTER FLOWERING.

BY DANIEL BARKER, UTICA, NEW YORK.

ALTHOUGH the *Heliotropium corymbosum*, and *Peruvianum*, with many beautiful varieties of more recent introduction, have been known, in collections, for years, and are by no means difficult to manage, yet, good flowering specimens are seldom to be met with during the winter months, when it is so desirable to have them in flower, emitting their delightful fragrance all around. The suitability of the *Heliotropium* for greenhouse decoration, during the flowerless and dreary months of winter, does not appear to be so generally known as it should be.

To grow them for this purpose, the cuttings should be rooted in March or April; afterwards potted into three-inch pots, and placed in a frame, with a gentle bottom heat, and, in about three weeks or a month later, shifted into larger pots, when, if the season is sufficiently advanced, they may be plunged in a sheltered, warm border, being careful to shift them, from time to time, as the pots become filled with roots, until they are finally in ten or twelve-inch pots; keep them plunged until the weather becomes too precarious to leave them exposed longer, by which time they will have become fine, strong, bushy plants, well furnished with flowering shoots, and should be taken up, the pots washed clean, and have a good top dressing of rotten manure and leaf mould; the plants tied nicely into shape and removed into the greenhouse or conservatory, where they will continue in flower the whole of the winter. When in their winter quarters, be careful they never want for water, otherwise they will lose their leaves, and, although retaining their flowers when denuded of their foliage, they become unsightly. Where circumstances admit, a good location for the stronger grown varieties is the back wall of the greenhouse or conservatory, where it will soon cover a large space, and flower freely throughout the winter months. For such a situation, the *Intermedia*, *Corymbosum*, *Peruvianum*, *Souvenir de Liege*, and *Triomphe de Liege*, are well adapted.

We need scarcely add, that to form a correct knowledge of the full value of the *Heliotrope* as a winter flowering plant, can only be by seeing well-grown specimens loaded with their sweet and beautiful flowers in rich profusion, fresh and lovely from the hand of nature.

Those who may feel desirous to have this beautiful plant to flower during the ensuing winter (it being now too late for cuttings to root and become sufficiently established for that purpose), can do so by purchasing of any florist or nurseryman, being careful to repot them and stop them back, placing them in some well-sheltered situation, and treating them as formerly mentioned; they will then amply repay any care and attention which may have been bestowed on them.

The following are well adapted for winter flowering in pots:—

Beauty of the Boudoir.—Best of all *Heliotropes*.

Marguerite Wilson.—A splendid variety, with large flowers like *Triomphe de Liege*, with a dwarf, compact habit.

Corymbosum.—An old, but beautiful kind.

Lucien Tardiff.—One of the best for winter flowering.

Reptans.—A most beautiful variety, with an incomparable perfume.

Reptans Major.—Said to be superior to *Reptans*; raised by Mr. Geo. C. Thorburn, of Newark, N. J.

Pendulum.—A new and beautiful variety, well adapted for vases, &c.

Aug. 1, 1856.

CRITIQUE ON THE JULY HORTICULTURIST.

The Horticulturist, its History, Progress, &c.—As Junius said to the Duke of Grafton, "If I should happen inadvertently to say anything in praise of your Lordship, it would be imputed a slander upon my usually expressed opinions," or something of the sort, as I only quote from memory what I read some thirty years ago, and as I am not much in the habit of praising anybody or anything, I have only to say, in the classic style of Davy Crockett, alas, that he left not his fellow! "Go ahead." The discourses of its own pages are the best commentators on the merits of the *Horticulturist*.

Buffum Pear.—A good fruit; and when our pomologists confine their chief attention to the best selections from our native pears, they will succeed much better than in cultivating the refined and overworked fancy things from abroad. Rely upon it, every country produces something of its own, which, in its line, will prove the most valuable for permanent cultivation. It has, thus far, proved so with American pears.

Grafting by approach.—One of the fancy ways of doing a very necessary piece of work. When a man wants something to keep him out of mischief, and hasn't a pile of shingles at hand for whittling, he may set himself to "grafting by approach."

The Upas-tree.—With what horror did I use to read that dreadful story of the Bohon Upas in the *American Preceptor* at school, when a boy! Any man of observation ought to have known that the story was a downright Munchausen, but with that sagacity common to most school-book compilers, into the book the story went, and so we, young noodles, believed it then, as half of the older ones believe it now.

William Coxe, the Pomologist.—A fresh racy sketch of a useful man; worth, to the American world, more than half its politicians put together. You can do no better service, Mr. Editor, than to thus chronicle the good deeds of such benefactors to their race. Coxe was one of the first fruit authors I ever read; a delightful book it was to me, and, for the times, one of rare merit. Imperishable honor to William Coxe, of Burlington, New Jersey!

Dwarf Pears.—Very well for the garden, but not out of it; provided you confine yourself to half a dozen varieties.

Pruning of Pear-trees.—Another most valuable article from your correspondent "B." Read it, everybody who grows a pear-tree, and wants to cultivate it right.

The Old Topiary Work.—One of the old time absurdities which I hope may never be revived in America. Any extent of waggery and burlesque may be applied to such nonsense with justice. I have seen now and then an abortive effort at the thing in this country, but with a thorough contempt of the puerile taste that dictated it.

Have Ferns Sexes?—Why not? It is pretty much a settled principle that all vegetables have sexes. If so, ferns must. I fancy it to be the organic law with vegetables, as with animals, that sexes are indispensable to the renewal of their species, although the continuation of life may be prolonged indefinitely in the one by layering, cuttings, and grafting, while the other has its individual vitality bounded by the inexorable laws of its creation.

An Octagon House.—Why inquire, Mr. M. P. of Sing Sing, N. Y., about such an absurdity? I would as soon undertake to live in a tee-to-tum, or an anchored balloon as in a house that has every side and corner alike, and no front

and rear approaches. Have all the world been simpletons for the past six thousand years and upwards, that they never adopted octagon houses? Your remarks, Mr. Editor, are to the point, but "the play is not worth the candle."

Designs for Improving Country Residences.—Multum in parvo. These articles of Mr. Saunders are suggestive, therefore valuable. An acre and a quarter of ground, as in this plan, contains a great many family comforts and luxuries in its vegetables and fruits; as well as retirement, and positive enjoyment in its pleasure grounds with its trees, shrubs, and flowers. An effective plan for a given piece of ground and buildings can only be made after an accurate observation of its character in position, variety of surface, views, &c. Limited space, with various requirements, must be *embroidered* like the one before us; and, when effectively done, it becomes a beautiful and complete home. Yet the dwelling upon it must not be ambitious; nothing above the cottage. A pretentious house must have ample grounds, and wide plantations, otherwise it appears wonderfully belittled by its petty surroundings.

Citizens new to the Country, p. 337.—My dear old foggy brother, what else can you expect, if you live within striking distance of a large city, and your quiet old village has an air of decided repose and comfort about it? You might have known that the town Goths and Vandals would make a descent upon you, and the wonder is, why they have delayed it so long. There is no way but to submit to the present and coming state of things; and unless you can crib and cabin yourself within your own grounds by a high fence, hedge, or wall, just sell out to these destroyers of your peace for five times as much money as you ever before supposed your place to be worth, as you can do, and let the money you receive for it compensate the sacrifice of your quietude. I know of no more sensible way to be revenged on such intolerable snobbery as you describe. JEFFREYS.

CULTURE OF THE STANWICK NECTARINE.

BY T. L. HARRIS, GARDENER TO H. H. HUNNEWELL, ESQ., WEST NEEDHAM, MASS.

[On a late visit to the country residence of H. H. Hunnewell, Esq., thirteen miles from Boston, on the 19th of July, we were handed a large plate of the most exquisite Stanwick Nectarines raised by his gardener, Mr. Harris. To say this fruit in perfection is excelled by no other now cultivated in America, is only its just praise. The following is Mr. Harris's account of his treatment of the tree. It seems so simple that no one need fail in pursuing it; every person with a peach-house or even a grapery may succeed.—ED.]

WHEN you visited the residence of H. H. Hunnewell, Esq., West Needham, Mass., you were gratified with a taste of the Stanwick Nectarine, a fruit unsurpassed by any other Nectarine, and one I have been exceedingly fortunate in ripening to perfection.

In compliance with your wish, I send you my mode of treatment, which I hope will be an inducement for others to cultivate more extensively this most luscious fruit.

It appears from reports received from England that the Stanwick Nectarine, from some cause or other, has not given that general satisfaction we were led to suppose would have been the case from the encomiums bestowed upon its first introduction, and even in America it has turned out, comparatively, a failure by many who attempted its culture.

The two trees in Mr. Hunnewell's possession were obtained four years ago, from New York, and were planted in tubs containing one and a half bushel of

earth each ; the soil was composed of about equal parts sandy loam and old hot-bed manure ; in this compost they grew rapidly, and in the succeeding spring each tree set about thirty nice fruit. On the first day of May, 1854, my engagement with Mr. Hunnewell commenced, and within one week from the above date every fruit fell off (the fruit were evidently undergoing the process of stoning, a critical period with all stone fruits) ; this misfortune I attributed entirely to the low temperature they were sometimes subjected to, the young man who had part charge of the house informing me the temperature inside was often as low as 40° at sunrise.

This disappointment made me determined if possible to ripen them another year ; in order to do this I felt it was important to secure well ripened, short jointed wood ; this I achieved to my entire satisfaction. On the 20th November, 1854, I put them inside the grapery, and withheld water from them until the 15th January, 1855 ; when I commenced starting them at a temperature of 40° to 45° at night, and 50° to 55° by day ; syringing them three or four times a day until the blossoms began to expand on the 5th of February ; by this time the trees were really magnificent, being literally covered with large deep pink blossoms. I assisted their setting by the use of a camel's-hair pencil, and in about a fortnight, as soon as the blossoms began to decay, I had the satisfaction of seeing every shoot covered with embryo fruit. I then increased the temperature to 45° to 50° by night, and 60° to 70° and even 80° in bright days, syringing them frequently ; cautiously admitting air in cold weather, and giving the trees just sufficient water to keep them in a growing state. Just previous to their stoning, or when the fruit are about the size of chestnuts, I thinned out the fruit, and left one, and sometimes as many as three, on each shoot. When about the size of walnuts, or as soon as the stoning process is over, I commenced watering in earnest, giving each tree not less than eight gallons of water daily, with a moist temperature of 70° to 90° by day, and 55° to 60° by night. Three or four times a week I watered them with a weak solution of guano, the quantity used about one ounce of guano to one gallon of water, always applying the liquids at about 65°—this I conceive of the first importance.

Under this treatment the fruit swelled with astonishing rapidity. As the fruit approached maturity, I ceased syringing altogether, and applied pure water only at the rate of five gallons daily, keeping the air as dry as possible, but admitting as much fresh air as circumstances would admit of. By the 4th July each tree bore thirty and forty large well ripened and highly colored fruit.

My success having surpassed my expectations, and being perfectly satisfied that the treatment adopted was such as the tree required, I have pursued the same course since, and this season I have been again successful ; one tree producing nearly four dozen, and the other six dozen of the finest fruit imaginable, some specimens measuring $7\frac{1}{2}$ inches in circumference, and all beautifully colored, where not shaded by the foliage. Those persons who have tasted the fruit have expressed themselves in the strongest manner in its praise, and I believe it has been the general opinion that the flavor was superior to any other variety cultivated in this section of the country ; indeed, coming up fully to the glowing descriptions given when it was first introduced into England.

There is an impression that this fruit is particularly liable to crack, but from my observation in its culture, I should not say it had any very strong tendency that way, though it is very likely to be the case if kept too damp or allowed to be wet in the last stage of its growth. I feel confident no one will be disappointed in this respect, if they follow strictly the treatment I have just indicated.

WEST NEEDHAM, July 18, 1856.

PLANTING:—A THEORY FOR AMERICA.

BY THOMAS MEEHAN, GERMANTOWN, PA.

WHEN a gardener first arrives in this country he is told that in a great measure he has his business to learn over again. This is a matter of surprise to him. Are not, he inquires, the principles of gardening the same all the world over? Knowing the theory of Horticulture, can I not vary my practice to suit circumstances? This would be all very well if this "theory" were perfect, which unfortunately it is not yet found to be.

In nothing more have we been mystified by theory, or rather left to our own dark ways, than in the matter of the best time to plant trees. After all that has been said and written, where are there two who will agree to any well defined principle? "I have found spring to be the best time," says one; "but," says his friend, "I have found autumn to be a better." Now if our theory were truly perfect, would there be any difference of opinion on this point? I think not.

All the aid we have received from physiological writers is, as stated by Lindley, by whom we are accustomed to swear, that, as the roots of plants grow in winter, except when actually encased in frozen soil, it is better to plant in fall and winter than in spring, because the extra supply of roots before the period of spring growth, renders the plant better able to meet the demands for moisture the foliage makes on it.

This theory is right in this, that it assumes the importance of preparing the fullest supply of moisture and food for an expected heavy demand; but it is faulty in supposing that that demand does not occur till spring. In England it would be right enough, but in America it is all wrong.

If we cut a branch from a tree, and expose it to a clear sun, it is dried up in a few hours; but if it be a foggy, misty time, it will not dry up as much in a day. So much depends on a dry or moist atmosphere. Evaporation rises from a living tree, as well as from a cut branch, and in proportion to the saturation of the atmosphere. In England, during the winter months, its atmosphere is as nearly saturated with moisture as possible, but in America, is nearly as dry as in summer. Indeed, it is a question whether it is not dryer in our severest frosty days, than it ever is under our blazing midsummer sun. Hence a living tree in England would be storing moisture every day during winter, while the same tree in America may have it drying out faster than it comes in by the root.

In choosing the best time to plant trees, therefore, we have to make it, as I have said in my *Handbook of Trees*, "a question of evaporation," rather than one of growth by the roots merely. Then we can understand the varying success of different individuals with different seasons, which before seemed unaccountable. One man plants a quantity of hemlocks or junipers in November; the roots commence to grow at once, but also at once, sets in a dry cold "spell," and the moisture evaporating faster than it comes in, the plants dry up, are in fact "scorched," as truly, literally, scorched as if by the influence of a July sun. He goes at it again in spring, a moist time ensues, not rainy, perhaps, or even foggy; but a genial, mild, "even tempered" time, and they succeed. Then the time, not the circumstances, suggests itself, and with him there is no time to plant like the spring. Not so with his neighbor; he also planted in November; "didn't take any particular care either." For a few days there was so much moisture in the atmosphere that the roots had time to "get a fair hold"

before moisture was much wanted. The winter was not severe—twenty or thirty degrees of frost were not day after day bringing the moisture to the surface of the branches by expansion, and on the south side the sun drying it off as fast as it froze out—they had nothing of all this to endure, and they succeeded. You don't catch my friend planting hemlocks and junipers at any other time than the fall or winter after this. And so it goes, the world outside all the while exclaiming: "How the doctors disagree."

The subject is capable of much further elucidation. What I have said will, however, be sufficient to show that to know when best to plant trees, will require us to study more than we have done, how to promote or check evaporation.

FRUITS OF KENTUCKY.

BY DILATRIO, NEAR ELKTON, KENTUCKY.

It has been with feelings of astonishment, mortification, and disappointment, that I have searched the Horticultural periodicals of our country for at least an occasional hint of the progress of that science in Kentucky. Almost every other State in the Union has its watchman on the walls, ready to proclaim the welcome tidings of Horticultural advancement in his particular locality, except Kentucky. I have waited with becoming patience for some one competent to the work, to come forward and perform this pleasant task for Western Kentucky, but have waited in vain. Why is this? In point of energy, industry, and intelligence of our citizens; mildness of climate and general adaptation of soil and climate to the production of all the fine fruits and flowers of a temperate climate, Kentucky is behind no other State, perhaps, in the Union.

It is but little more than half a century since the savage Indian held entire possession of this vast valley, and as is customary in the settlement of new countries, the first care of the settlers was to secure the necessities of life, and after this the comforts, conveniences, and luxuries. These having been secured to some extent, our progress in "rural taste" is astonishing. Ornamental trees, shrubs, flowering plants, in short every plant adapted to this latitude having the reputation of beautiful, or even pretty, is eagerly sought, and quite a number of our citizens are also cultivating the finest species of greenhouse plants.

Our improvement in fruits and fruit culture has been no less rapid. The first apple-trees planted were seedlings, brought by the emigrants from Virginia, Carolina, &c., and nine-tenths of them could only be tolerated where there was no better fruit. Many of these trees are yet in a healthy productive condition, and seem to bid fair to remain so for half a century to come. But now how changed the scene. Fine young orchards of apple, peaches, pear, and plum trees, of the best varieties to be had in the country, are almost everywhere to be seen in this section of country.

Tens of thousands of apple-trees of the finest varieties that can be obtained, in this or any of the adjacent States, are put out every year, and the demand still on the increase. Most of the new varieties of high reputation in the older States have found their way here. Our climate and soil are wonderfully adapted to the growth of the apple, and it is believed that no State in the Union produces them in higher perfection than Kentucky.

With few exceptions, the varieties of the Northern States succeed well here, the principal difference being in the time of ripening. Most of the winter apples of Massachusetts, New York, &c., ripen here in the autumn. The Rhode Island

Greening, however, is worthless here. Not one specimen in five hundred, perhaps, remains sound until it ripens. It is also a very shy bearer, and too acid even for hogs.

The Baldwin succeeds pretty well here, and with care will keep through winter. The Mela Carla fully maintains its high Italian character. The Jonathan is also at home with us.

The Large Striped Winter Pearmain is a large fine winter apple, and is perhaps the best market apple we have, on account of its size and beauty. The Prior's Red and Jenett, however, are the great favorites here for winter use. The Golden Pearmain, Columbia Russet, Renette Franche, Peck's Pleasant, Green Cheese, Wine Sap, Crow's Egg, Hall's Seedling, and a host of others, are cultivated here. We also cultivate a few varieties of apples here of first-rate quality, that I think are not known elsewhere. The following are some of the principal ones:—

Ben Davis, a large fine winter apple; Holland's Red Winter, is also a fine winter apple. The Homony Apple is perhaps the best very early apple that we have, ripening generally a little before the Early Harvest. Matlock's Summer, which originated in an adjoining county, is an apple of large size and very good quality, ripening in August. But as I have already transcended my intended limit, I will for the present close.

NEW PLANTS.

CUPRESSUS M'NABIANA. Nat. Ord. *Conifera*.—This beautiful Conifer was raised by Messrs. Veitch, from seeds gathered by Mr. W. Lobb, who found it on the Sierra Nevada of North California, where it forms a bush from eight to ten feet high. It presents a most striking appearance, with green and glaucous scales associated with the deep rich brown of *Tamarix gallica* on their branches, and shows that in youth and vigor the species must be exceedingly handsome.

DAHLIA, CRYSTAL PALACE SCARLET (Dwarf Bedding).—The qualities of this new bedding Dahlia are such that henceforth no garden with but half a dozen flower-beds will be complete without it. It fills up that void so long felt by many, namely, having a bed composed of large bold flowers, brilliant in color, profuse bloomers, and of dwarf habit. This Dahlia possesses all the above requisites; it will, therefore, be easily imagined how the smaller and more diminutive flowers are lost beside it; added to which, it is one of the easiest plants to preserve throughout the winter, and can be propagated in spring by dividing the roots, in the same way as an ordinary herbaceous plant. Persons in the habit of visiting the Crystal Palace last season must have been struck with the noble effect the Dahlia there made when pegged down; but this variety, from its dwarfness of growth, will not require such care; and those who have had the pleasure of viewing the noted gardens of Tedworth House last summer, will be able to appreciate the following particulars given of it by the able superintendent there: "In color, this beautiful dwarf Dahlia is equal to the most glowing scarlet Geranium; the flowers are of a medium size, very double, and full to the centre, of very compact habit, its growth averaging one foot and a half, and having fine dark leaves, which contrast admirably with the brilliant color of the flower; it commences blooming early in July, throwing up great quantities of flowers together, and remains one perfect sheet of bloom, until cut off by the autumn frosts. As a bedding plant, it will stand pre-eminent, and will be found unequalled for the decoration of the flower-garden during the autumnal months; another and not less

excellent quality of this plant is, that neither rain nor sunshine has any effect on its brilliancy."

JUNIPERUS PYRIFORMIS. Nat. Ord. *Coniferae*.—Another of Mr. Lobb's introductions, when on his Californian tour. He discovered it growing on Mount Bernadino. It is a fine, distinct species, the fruit of which resembles small pears when young. The berries are deep purple, with a glaucous bloom on them. It grows as a low tree, from ten to twelve feet high, and is perfectly hardy in England.

PHOLIDOTA SUAVEOLENS. Nat. Ord. *Orchideae*.—Much resembling a Lily of the Valley, but is an orchid, possessing like-formed leaves, flowers, color, and charming scent. It has been flowered by the Bishop of Winchester, at Farnham Castle. Its origin is not known. (*Gard. Chron.*)

RIBES SUBVESTITUM. Nat. Ord. *Grossulaceae*.—A very pretty flowering hardy shrub, sent from California by Mr. W. Lobb, and belonging to the same section as our *R. speciosum*. The flowers, however, are considerably larger than those of that species, and of a deep crimson color. This will be a beautiful addition to our shrub borders, and deserves extensive cultivation.

R. FALCONERI.—Another of the beautiful Himalayan Rhododendrons which have bloomed this year for the first time. The present species has been flowered by Messrs. Standish and Noble, of Bagshot, in an open frame, merely protected at night by a mat; also with Mr. Fairie, near Liverpool. It is a very striking species, not only from the color and size of its heads of flowers, but also from the magnificence of its foliage. It grows on the summit of the Tonglo Mountain, in Sikkim—Himalaya, at an elevation of 10,000 feet. The flowers are produced in large heads, pale sulphur-yellow, broadly bell-shaped, upwards of two inches across the mouth; the leaves are from eight to ten inches long, about four inches across, dark green, and beneath ochreous; leafstalks pale green, somewhat woolly. (*Bot. Mag.*, 4924.)



FOREIGN NOTICES.

ON COMPOSTS SUITABLE FOR GROWING FLORESTS' FLOWERS.—Having often experienced the inconvenience of being obliged to refer from one book to another for a description of the composts suitable for different flowers, I have collected some of the most approved together, thinking they might be useful to many of your readers. I send them for your insertion.

Carnations: 1. Two-thirds fresh loam; one-third rotten frame-dung, with a little sand. 2. One-half loam; one-half rotten frame-dung, with a little sand. 3. Five-sixths of No. 1 or No. 2; one-sixth leaf-mould, good for Picotees. 4. One-third loam; one-third peat; one-third two-year-old cow dung. *Ranunculuses and Anemones*: Two-thirds loam; one-third rotten cow-dung. *Dahlias and Narcissus*: Loam well manured. *Hyacinths*: 1. One-third sea or river sand; one-third loam; one-fourth rotten cow-dung; one-twelfth leaf-mould. 2. Two-sixths gray sand; two-sixths well-rotted cow-dung; one-sixth tanners' bark, quite rotted; one-sixth tree leaves, well rotted. *Pinks*: Two-thirds loam; one-third two-year-old cow-dung. *Tulips*: Good sound loam. *Auriculas*: 1. One barrowful of loam; one barrowful of leaf-mould; one barrowful of old frame-dung; one barrowful of two-year-old cow-dung; one peck of river sand. 2. Two barrowfuls of sandy loam; one barrowful of leaf-mould; one barrowful of two-year-old cow-dung. 3. One-half rotten cow-dung; one-sixth loam; one-eighth leaf-mould; one-twelfth sand; one-twenty-fourth decayed willow wood; one-twenty-fourth peat; one-twenty-fourth ashes of burnt vegetables. *Polyanthuses*: 1. One barrowful of sandy loam; one peck of leaf-mould; one peck of old cow-dung. 2. One barrowful of well-rotted cow-dung, or leaf-mould; one-half barrowful of white sand; two barrowfuls of good loam. *Heartsease*: Three barrowfuls of fresh loam; one barrowful of one-year-old horse-dung; one peck of sand.—D. PRARCE, Wakefield, England.

CHOROSEMAR.—This tribe is generally considered by amateurs difficult to cultivate; but they can be grown well by pursuing the following method: The soil should be a sandy peat, well broken with the spade, but not sifted. The best time for potting is March or April. Care must be taken not to over-pot the plants, or injure the roots while potting; the soil must be made very firm and compact about the roots, and the pots well drained; then they should be placed in the greenhouse in an airy situation, and not crowded among other plants. It is also well to keep them in the greenhouse during summer; but in hot weather they should be shaded for two or three hours each day during sunshine. They require a reasonable supply of water; that is, they must not be sodden, nor left too dry. They may be propagated in the following manner: the cuttings should be taken off and carefully prepared while the wood is young; take off the bottom leaves with a sharp knife, and make a clean cut horizontally just through the joint; the cutting-pot should be drained, and then filled to within an inch of the top with the soil above mentioned; on the top of this put a layer of white sand, into which put the cuttings, making a hole for their reception with a small stick. When the pot is full, give them a little water with a fine rose; after which, place a clean glass over them: in this state they may be removed to the propagating house, where the temperature should be 70 degrees. They should be shaded from the sun, which can be done by placing a sheet of coarse paper over the glasses. As soon as the cuttings are rooted, which may be known by their appearance of growth, they must be potted off; but care must be taken not to injure the roots, and they must be shaded again for a week or ten days, until they make fresh ones; they must then be gradually hardened, and placed with the old plants in the greenhouse.—Alpha (*Gard. Chron.*).

OXALIS FLORIBUNDA.—Were I desired to select the most picturesque plant, yielding a long-continued and profuse crop of flowers without artificial attention to its after-growth, I should without hesitation fix upon this. It is a dwarf, tuberous, herbaceous plant, rising from two to four inches in height, each plant forming a terminal crown of leaves (similar to a small-growing Clover), from the centre of which arises a profusion of bright rose-colored flowers, continuing in succession from June until September. The principal precaution required for its successful management consists in adapting the soil to the tuberous structure of its roots, which differ from most others in their thick, fleshy, unbranched form, capable of absorbing an excessive amount of fluid, beyond what is required for the support of the simple crown of leaves upon their summit. As a general rule, the amount of soil, and the nutritive properties which it contains (when applied to plants), should always bear a strict relation to the extent of growth which they are capable of maturing during the current year. Every degree beyond this is an evil, which lessens the vital energy of their organs. To induce fertility in the plant, an artificial soil should be prepared in equal portions of old light garden loam, heath mould, and well-washed river or silver sand, and well incorporated with finely-broken brick refuse, equal to one-third of the whole amount. Thus treated, it forms a very beautiful object, either for edging or in the parterre, and when seen expanding its bright blossoms for successive weeks, it appears as one of the few objects of which it may be remarked that it has "few equals, and no superiors." In common with some others, this interesting plant is much degenerated by the inferior varieties from seed, which have almost supplanted the original species, the former being much less compact in their growth, and less brilliant in their flowers. The latter is known by its leaves being not more than from two to three inches in length, and by its flowers being uniformly circular, and firm in their texture, varying from bright to darker shades of rose color, and when found in favorable situations, the profusion of bloom almost covers the foliage.—*W. Wood.*

PROPAGATION OF THE ANEMONE JAPONICA.—If a root of this plant be taken from the ground, after flowering, it will be found to resemble brown cord, divided into a great number of ramifications. Upon its surface will be perceived a great multitude of little white conical projections, sometimes growing singly, sometimes springing up in clusters, and occasionally producing scales on their sides. They are young buds, every one of which, if cut from the parent, will grow, and form a strong young plant in a few weeks. These buds are not confined to the main trunk of the root, but extend even towards its extremities, so that every fragment of the plant is reproductive. Such being the case, he who possesses an *Anemone Japonica*, has nothing to do but turn it out of its pot, when at rest, clean its roots, chop them into pieces about half an inch long, and then place them in some light fibrous soil, near the surface, in a gentle hotbed, and in a few weeks he will have as many healthy young plants as he may have chopped the root into pieces. Such is the wonderful power of reproduction in this plant, to which, indeed, we have few parallels.—*G. C.*

ON SUPPORTING PLANTS BY STAKES.—Primary importance must be attached to the time at which support of any kind is to be afforded. The principal evils to be corrected in the methods at present pursued are staking plants at too late a period, and doing it with unsuitable materials, or in a slovenly way. If a specimen be not early staked, however neatly this operation may be afterwards performed, it will ever betray the neglect from which it has suffered, and can very rarely be brought into the required position. Beyond this, there is the danger of being broken or injured from wind and other causes, to which it is exposed prior to staking, and the fact that it is not necessary for stakes, when timeously applied, to be so strong; when, by consequence, they are not rendered so prominent or perceptible. Let a plant be staked while it is small or young, and its appearance will remain

as natural as if it had not been staked at all ; but wait till it has begun to straggle, and no subsequent care will suffice to relieve it of the constrained unnatural aspect it must then be made to wear. Whatever material be employed for supporting plants, the chief object should be to conceal the stakes ; and hence they ought to be as straight and free from projecting parts as possible, and as short and slender as comports with the purpose for which they are designed. Crooked stakes, those which have irregular and broken branches, such as are unnecessarily stout or tall, and stakes made of a soft pliable wood, or having too rugged an exterior, are exceedingly unfit for ornamental uses in the case of erect-growing species. The most proper are those which are smooth, straight, free from irregularities, just strong enough to effect their object, and so long as to reach only within a few inches of the top of the specimen, or as high as support may be needed. There are likewise many objections to the ordinary modes of applying stakes, or fastening plants to them. It is wrong to place the stake between the plant and the path from which it is looked at ; for the object that ought to be hidden is thus made most conspicuous. It is improper to thrust the stake into the earth near the stem of the plant, particularly if it be a tuberous-rooted or bulbous species ; since much damage may be done to the specimen, and probably some of its main roots and sources of sustenance be cut off thereby. For the same reason, it is equally erroneous to use a stick that is not prepared with a long smooth tapering point, or has any considerable asperities on that portion that is to enter the ground.—*M. S.*

SHRUBBY CALCEOLARIAS.—A very great improvement has lately been effected in this most useful decorative plant by Mr. Cole and others, who have devoted some attention to hybridizing for the purpose of obtaining improved varieties. We have this season bloomed a full collection in pots, for the purpose of testing their respective merits, and ascertaining which of them are most useful for bedding uses. Many of them have proved most valuable for this purpose ; others are only suitable for pot culture, and are not shrubby enough, in habit, to stand the wear and tear of out-door work, and give a succession of bloom for the season. Our aim now is to give some account of all the varieties we have grown, and particularly to show which are really useful as bedding plants. And, with regard to the culture of Calceolarias in pots, our opinion is, that the shrubby varieties are far superior to the herbaceous kinds for pot culture. In habit, and in duration of blooming, especially, they are greatly superior, as they yield a succession of flowers for the season, while the herbaceous varieties do not remain in bloom half so long. They are also not so subject to green-fly. The shrubby varieties are very easily grown from cuttings, and require much less attention in wintering, as well as in their culture. Our method of growing them is this : The plants are just cut down from which cuttings will be taken in September. During the winter, they will be kept in dry, cold frames or pits, provided with small hot-water pipes in front, to keep out frost and damp, and the plants will be kept as near the glass as possible, to prevent drawing. They should be kept *well aired* and hardy, and quite free from green-fly, by repeatedly fumigating them. Especial care should be taken to keep them growing, and not allow them to receive a check, either from want of water, too much water, or any other cause. The soil we use consists of maiden loam, leaf-mould, and sand, mixed in a rough state, and not sifted. The plants should be stopped two or three times at various periods, and shifted as required, and 8-inch pots are quite large enough for full-sized specimens. *Plenty of air, kept growing, and cleanliness*, are most important points to be kept in view.

DEUTZIA GRACILIS.—Few plants, among the recent introductions to our gardens, possess more interest, or have proved more valuable than the *Deutzia gracilis*, not only as an ornament for the shrubbery border, but also for pot cultivation. As a plant for early forcing,

for the decoration of the conservatory, and also for cuttings for bouquets, it is one of the most useful. Like its congeners, it is readily propagated by cuttings of the young wood, in a half-ripened state. If the wood is strong and healthy, cut the cuttings at a joint, as they will strike just as freely; if a leaf-bud and about an inch below is taken with it, each joint or bud will make a plant. To insure the cuttings rooting quickly, a gentle bottom heat will be necessary, and they must also be covered with a glass, to prevent the undue evaporation of the moisture. Any light rich soil will be suitable, such as a mixture of turfy loam, leaf-mould, and gritty sand; and, when planted out, any enriched garden soil will suit it. As a pot plant, it will require much the same treatment as *Wiegela rosea*—that is, the wood must be thoroughly matured in the autumn, to insure its blooming profusely when forced.

THE GARDEN RASPBERRY.—EDITOR HORTICULTURIST: In all the American books, I can find no mention of a *first quality, hardy raspberry*. In the several varieties recommended for cultivation, they are spoken of as requiring winter protection by bending down and covering with earth, which is a great labor, besides breaking many of the canes. Now I have had two varieties of red raspberry in cultivation for eight or ten years past; which are *perfectly hardy*, and have withstood every winter without shelter or protection. I never saw better bearers—the fruit is large, delicious in flavor, and the two together are a month (in open grounds) to six weeks in bearing, according to exposure. If located on the north side of a fence, they are longer in bearing, yet the south exposure will be earlier.

I pretend to no originality in, or invention of, these fruits. I obtained them from a garden in my neighborhood, which had been planted at great cost, by a gentleman of taste in such matters; the fruits, so far as I could learn, were “far fetched and dear bought.” The owner dying, the ground was devoted to other uses by his successor. The gardener who sold them to me called one the Red Prolific, the other the Red Antwerp; but I can find neither of them described in the pomological books, or nursery catalogues, and I am certain that neither of them is the *true Red Antwerp*, which is not hardy. Mine grow much stronger, higher, and larger than the Red Antwerps do in this vicinity. Hearing so much said about winter covering for the raspberry, I had them carefully bent down and covered one winter, and nearly ruined them by the process. Since then they have had no protection whatever. They withstand the cold of this latitude, 42° 45' north, as well as the wild raspberry of the woods, or anything else—*never missing a full crop*, and my small plantation giving me several bushels every season. They have never been marketed till this summer, and having leased my farm-garden grounds to a Scotch gardener, he sends them to town, where they are pronounced by the fruit dealers the best they have had, although the *true Red Antwerps*, requiring winter protection, are sent in for sale.

Having seen frequent inquiries in the papers for *hardy raspberries*, and believing that the varieties I have so long cultivated comprise the most desirable qualities for popular culture, I have advised my gardener to offer a part of his young plants for sale, which will be seen in the advertisement accompanying this. I grow them together promiscuously in the rows, which I think is an advantage to their abundant bearing, and they are easily distinguished by the color and character of their wood and fruit. They should be fairly cultivated in good ground, three to five canes in the hill, and out down in the fall or spring to three or four feet in height, according to the strength of the canes. Tied at the top with a piece of twine, they need no additional support. Owing to their strong growth, I set the rows six feet apart, so as to use the place between them, and four feet apart in the row. When first planting, I put but one cane in a hill, as that throws up plenty of suckers for the coming year. The “true” Red or Hudson River Antwerp, compared with mine, has proved a failure in this vicinity.

Yours, truly,

LEWIS F. ALLEN.

Black Rock, N. Y., August, 1856.

EDITORS TABLE.

THE MANGOSTEEN.—An early number of the *Horticulturist* will contain a superb plate of the Mangosteen, which has lately been fruited in England. By general consent it is the best of fruits, but all attempts to cultivate it beyond its natural habitat, the Malay peninsula, and islands to the eastward of the Bay of Bengal, have heretofore been unsuccessful. We hope by figuring this superb fruit to induce some of our cultivators to attempt it in this country.

PINUS SABINIANA, OR PRICKLY-LEAVED PINE.*—The frontispiece represents the cone of the *Pinus Sabiniana*, about one-half its natural size, a splendid and useful species, found by the late Mr. Douglass on the western flank of the Cordilleras, at a great elevation above the level of the sea, being only 1600 feet below the range of perpetual snow, in the parallel of 40°, and likewise on the less elevated mountains near the sea coast, in the parallel of 37°.

The Indians were found to make use of the kernels as food; they are nearly as pleasant as almonds, except that they leave behind a slightly resinous taste.

The stems of these pines are of a very regular form, and grow straight and tapering to the height of 40 to 140 feet. A copious transparent resin exudes from the tree when cut. It was named after Mr. Joseph Sabine, Secretary of the London Horticultural Society; about London it appears to be as hardy as the *Pinus pinaster*. We observe it is advertised in this number by Kilwanger & Barry, and it is probable plants may be for sale by others. (See *Nuttall's Supplement to Michaux*, vol. iii. page 110.)

THE DIOSCOREA.—A correspondent of the *Sacramento Journal* having heard that one of the objections raised against the new potato was, that the Chinese themselves knew little about it, he made inquiry among the Chinese shops, and was successful at the first place he called. The storekeeper could not understand him, nor could the purchaser him, except when the inquirer picked up the roots to examine, when he said: "Good—all same as potato; mak'ee boll; two bits pound." This sets at rest one of the great arguments of certain doubters. We have said from the first, wait in patience till the roots grow before condemning them *in toto*. Time sufficient to prove them has not yet elapsed.

HOME.—The favorite sitting-rooms of many families in Paris and Berlin, as the evening hour comes on, are the balconies and terraces near the roofs of the houses, under the shade of trellises covered with flowers and foliage. They are often five or six feet wide, and are often furnished and decked out with great taste, even to the gilding of the railing, and the hanging of fancy curtains. For, let it not be supposed that those who live at the top of a house having such a terrace, are merely poor needle-women, or obscure artists. By no means; they are, more probably, people who can afford to have their chairs and sofas covered with velvet, and lounge away their evenings in looking down from their giddy

* See Frontispiece.

height on the equipages and *promeneurs* that crowd the Boulevards and streets of these magnificent capitals.

Some have young trees of lime, maple, and elm, six or seven feet high, with wide-spreading branches over head, which afford as much shade as is wanted; and there is, besides, what is called a *Berceau*, at one end of the balcony, neatly trellised over, and covered with vines, and in which there is a divan, or one or two seats. This is a perfect screen when the sitter is in the open air, but as private as within doors; sometimes a window is left, and a curtain, to drop as required, is left among the branches; an elegant aviary at one end, in which a dozen happy birds, of various colors, keep up a continual concert, are often an accompaniment, or a large cage, with a richly plumed parrot, may be seen in the centre, with the lady and children intent upon their books or needles. Many a charming Havana is consumed here after dinner, in the warm evenings, and many a litre of ruby wine.

In order to prevent anything like litter in the interior of the house, from frequent carrying out and in of plants, requiring fresh soil, or other attentions, a quantity of soil, with pots, and sticks, and trowels, and scissors, are kept in a cupboard-like box, under a seat. Such is one mode by which the European cheats time of its ennui, and lives in a civilizing atmosphere.

HOME, AND HOME EDUCATION, is the title of an Address at the opening of the schoolhouse at Evergreen Hamlet, near Pittsburg, by William N. Shinn, May, 1856. It consists of a vast deal of common sense, aided by good feelings, and, if we had more space at our command, we should be glad to insert one-half of it; as it is, the following passage possesses so much merit, that we copy it alone:—

"There should subsist between the teacher and the learners a sort of community of purpose—a mutuality of object, as though all were learners in different stages of progress; and the respect felt for the master, as the head of the school, should be that kind which naturally follows an exhibition of superior wisdom, and not such only as may be exacted by the fear of punishment. The pupils should be co-workers with their tutor, and not merely passengers, having nothing to do but show their tickets at meal time, and answer "yes" when questioned about the payment of the "fare." Ten wrong answers, in aiming to give the reason of a fact, are of more utility, in education, than twenty correct reasons committed to memory and repeated *verbatim*; for, every answer implies an exercise of intelligence which adds strength, and, should success crown the last effort, there is a permanent lodgment made in the *understanding*; whereas, in the other case, it may only be in the *memory*, and may or may not remain there as a permanent investment in the stock of knowledge. We say, tritely, that 'knowledge is power!' and so it is, just as powder and ball are destruction. But it is true of the one as of the other, that without appropriate application no sequence follows. Without a cultivated intellect to guide knowledge to its end, it is not a whit less inert than the cannon ball when no impetus is given to it."

The pamphlet has a good picture of a very neat and substantial schoolhouse, such as we should be glad to see more of in our land.

A PEAR ORCHARD.—It will be recollected that Messrs. Parsons, of Flushing, Long Island, parted with a large portion of their standard pears, which were set out as an orchard for market fruit, on account of the land they occupied being required for building lots. Many of these and some smaller ones found their way to our own neighborhood. Mr. Abraham Barker has 300 of these fine trees in excellent condition, and giving promise in a few years of most abundant returns. Among them we noticed 125 Lawrence, a pear that is said to be easily barrelled up, and keeping as well in that form as apples. His assortment comprises, besides the above, Bartlett, Duchess D'Angouleme, Louise Bonne de Jersey, Platt's Bergamot, Henry Fourth, Howard, Beckel, Aremberg, Andrews, &c. &c. The blight has

carried off about 8 per cent. of the above, and the slugs have attacked many of the trees very voraciously, but the latter depredator Mr. Barker has conquered by constant killing. The Seckel pear has been least subject to the blight, the Louise Bonne the most so, and Platt's Bergamot the next. Mr. Barker is just the enthusiastic planter we like to see; he has not expended all his money on houses, though these are all-sufficient for comfort, but has given his attention to garden and orchard, and ornamental planting, in a manner that promises to make his place in a short time one of the most attractive within the distance of a daily drive from Philadelphia. He is realizing the enjoyments of true country life, at the same time that a large city business receives its due attention; in short, we can say Mr. B. has begun right, precisely as we have so often recommended.

Gossar.—Agriculturists have their jokes as well as literary men. Judge Peters, of punning memory, one of the founders of the Pennsylvania Agricultural Society, commenced a reform in butter making, as an example that should render Philadelphia what it is, the best butter market in the world. At his first experiment of making sales in the market house, his butter was seized as being of short weight, and his weights were consequently sent to the examiner, coming home stamped, *C. P.*, for *Commonwealth of Pennsylvania*. "Ah!" said the inveterate and veteran wit to his wife, "they've found us out and marked us *C. P.*, *Cheating Peters!*"—A lady of our acquaintance has lately been much interested by a family of flying squirrels which were born inside a latticed shutter of her boudoir window. At Dr. Ward's we saw a wren's nest in a similar situation in the library window of the good doctor, who, to give no disturbance to his welcome visitor, kept his shutters closed till the brood was gone. This kind of attention humanizes and delights the lover of nature.—Of late years many beautiful wall flowers have been raised in Germany, such as crimson with white stripes. These have been originated between the wall-flower and the stock, and well deserve attention.—The great verbena, in England, now is the *Favorite*, with exceedingly large trusses of flowers, of a rich dark scarlet.—To destroy mice in a garden, bury pickling jars in the ground, with their mouths even with the surface; pour a little water in them, and the mice will fall in during the night and be drowned.—Mr. Snow, of Chicopee, Mass., has devoted himself to a speciality, cultivating verbenas alone. The idea is a good one, and might be successfully followed by others. Rhododendrons should be taken up in this way, and every hardy kind demonstrated to be so. The Messrs. Waterer, of England, have done this; they get fifty guineas sometimes for a fine new plant.—They have hybridized the Himalayan and American kinds till the variety is infinite. The Belgian rhododendrons, hardy and fragrant, are a great acquisition among us, but we have failed in introducing some of the best of our own country.—The dandelion is very prolific of seeds, as many as two hundred ripening on a single plant. To exterminate them they must be cut very low down, for without this treatment numerous new sprouts appear, and getting rid of them becomes yearly more difficult.—The manufacture of beet-root sugar continues to prosper in France. There is a company established at Drestes, with a capital of a hundred and fifty thousand dollars, dividing 15 per cent. annually. Last year they grew 1200 acres of beet, from which they made sugar and alcohol, and with the pulp fed an enormous herd of animals. The State exacts an onerous tax of two hundred dollars the hectare of two and a half acres.—The waterworks of the new crystal palace, near London, are spoken of on all hands as beautiful in the extreme. The number of jets is nearly 12,000, discharging 120,000 gallons of water per minute; jet succeeds jet, fountains of all kinds sparkle and dash into fantastic forms, and on each hand a vast torrent struggling perpendicularly to the sky, sighing and surging, and panting, like some fierce water god endeavoring to force its way upwards from a subterranean prison, surrounded by a crowd of attendants clustering round its base, and giving solidity to the space he stood

upon. The height is the greatest ever attained in fountains, ascending to the level of the crown of the nave.—Sir David Brewster, in his life of Newton, has discovered that the great philosopher had a taste for gardening, perhaps a new feature in the imaginary picture we form of him. It is fully corroborated by some letters, in which we find him anxiously and critically dilating on the best varieties of apple from which to obtain grafts, and expressing a wise preference for the genuine "red streaks."—Goldfish, as well as others, are attacked by a fungus like the yeast plant, which attaches itself to their scales and finally kills them. The plant is *saprolegnia ferox*.—A very fine new radish has been introduced into France from China. It swells at the bottom, where its diameter is about two inches; it is from three and a half to four and a half inches in length, and of a clear carmine color.—A most remarkable fact has been discovered by naturalists in Madeira, of the frequently wingless condition of the beetles; out of 550 coleoptera there collected, 200 are more or less without wings. As in the caverns of North America and Styria, the beetles, &c., which inhabit these eternally dark recesses, are eyeless, inasmuch as sight would be useless to them, so on the small island of Madeira the beetles are wingless, because powers of flight would be of little use or injurious to them, as when once on the wing they would be liable to be blown out to sea and lost.—The number of sheep in the British islands is estimated at 35,000,000, worth two hundred and fifty millions of dollars! producing 157,000,000 pounds of wool, worth fifty millions of dollars annually; this is independent of 60,000,000 pounds imported each year.—The last remedy for the caroulio is to smoke the trees with tobacco on the first appearance of the enemy. Smoke them well night and morning, for one week. Very probably the best remedy proposed.—We found Mr. Hovey, of Boston, in possession of a number of new varieties of the strawberry, and among them the "Sir Harry," which we were not aware had been received in this country. He has also "Admiral Dundas," of which it is said 18 weigh a pound. "Sir Charles Napier" is also a much esteemed variety. When we come to the description of places around Boston, we shall notice several of Mr. Hovey's novelties.—They had a discussion respecting the strawberry at the Fruit Growers' Convention of Western New York, which is well reported in *Moore's Rural New Yorker* of July 26th. The cherry also claimed a large share of attention.—The *Quercus gramea* produces edible acorns quite equal to chestnuts. These were much eaten by the ancients, and were believed by them to fatten the tunny-fish on their passage from the ocean to the Mediterranean, and are the bellotas which Teresa, the wife of Sancho Panza, gathered in La Mancha, where they still grow in the greatest perfection, and sent to the duchess.—Spain has at last attempted a reform in her agriculture, and in place of her old bull-fights has had a cattle show, which is to be triennial. A prize was awarded to an English Durham bull. With great capabilities, Spain remains in the rear in the march of improvement, though symptoms of her awakening are becoming apparent in railroads and manufacturing, and at last the cattle show for the bull-fight.—Lime-water poured freely on the nests and burrows of ants will cause them to flit, if it does not kill them. Arsenic in a solution of sugar and water is a certain remedy, but care must be taken that it is not accessible to other living things; therefore, cover the saucer with a slate and a stone, leaving a couple of pegs between the slate and saucer to let the ants in freely. By using honey and water you may trap them by myriads as the honey holds their feet like bird-lime.—A new white grape, a seedling of the Black Hamburgh, is spoken of favorably. It was raised by Mr. Carpenter, near Birmingham, is a distinct grape, much flattened at the eye, and of a clear amber color and rich flavor. Mr. Beaton thinks the pollen of the sweet water grape produced this seedling, and that it is well worth growing. Not yet named.—The hollyhock continues to grow in favor abroad. Instead of the tall single flowered varieties, we have them now with close spikes of beautifully formed, compact, double flowers, with clear colors ranging from fine white to nearly black, and lasting, as all double flowers

do, much longer than single ones. They seem to be favorites in Boston.—A plant may lose half its weight by drying, and yet be restored by care. De Candolle has recorded an instance of a *Sempervivum caspitosum*, which had been placed in a herbarium for eighteen months, and from which he afterwards detached a living bud and reared a plant. But the tenacity of vegetable life is best exhibited in the property which seeds possess of retaining their powers of germination, after having been exposed to very considerable degrees of heat and cold. Some, also, which have partially germinated, may be again dried and kept for months, without losing the power of germinating afresh, although they are sensibly weakened by such treatment. The revival of plants among the cryptogamic tribes, after a very long suspension of the vital functions, is well authenticated.—Trees are the indispensable objects in scenery; indeed, they are the essence of a true landscape. Scenery unadorned by trees is like a beautiful bird stripped of its plumage; creation is there, but it is without its usual charms.

ANSWERS TO CORRESPONDENTS.—PREPARED INSECTS, of the several parts of the United States, are desired by A. Z., for friends abroad. We can recommend a neighbor of our own, who, in his leisure moments after daily toil, collects and prepares with taste and accuracy most of the insects, butterflies, &c., of this part of the country, and who will be most grateful for orders, which he fills at very moderate prices.

PACKING PLANTS (W. H. Alexander) is an art few are masters of, and yet so important that, as our friend Mr. Barry once wrote, "he who cannot pack properly had better have nothing to do with the nursery business;" yet it is a very simple affair. Not merely "three days" but months sometimes elapse before plants reach their destination; and if properly packed, with complete success. A practical friend has promised us a complete essay on the subject for an early number.

PROTECTION TO PLANTS IN WINTER, by W. E., not inserted, and will be returned if requested.

AN EARNEST FOLLOWER OF HORTICULTURE.—We should be glad to receive specimens of the "white worm," though we strongly suspect your plants are infested by the red spider, which is often more destructive to verbenas in the open air than many imagine.

A BOX OF PEARS, with a few grafts, has been received from some kind friend, but unaccompanied by any letter by which to designate the donor.

(JOSEPH LONGWORTH, Esq., Cincinnati.) Your beautiful running vine is *Ampelopsis bipinnata*, or the Pepper Vine of the Rocky Mountains. It is certainly one of the most ornamental runners we have ever seen, and will, we hope, be generally disseminated.

(S. W. H.) Yes; you will find a note to that effect in the third volume of Michaux, page 37: "An ash leaf, rubbed upon the swellings caused by mosquitos, removes the itching and soreness immediately. The same effect is produced on the poison occasioned by the sting of the bee. The leaves and branches of the white ash are said to be poisonous to serpents, and the leaf to cure their bite. No rattlesnakes are found in white-ash swamps."

FORSYTH'S DRESSING.—(A. T.) The dressing for large wounds in trees is as follows: One bushel of fresh cow-dung is intimately mixed with half a bushel of lime rubbish, as from ceilings or walls, the same quantity of wood ashes, and one-sixteenth of a bushel of river sand, all finely sifted. The edges of the wound and surface being made perfectly smooth, the composition is laid on about one-eighth of an inch in thickness, care being taken to thin it off gradually at the edges. A powder of wood ashes, and one-sixth of the same quantity of burnt bones, is then applied, with a dredger, till the whole is covered, allowing it to remain half an hour to absorb the moisture. More powder is then rubbed on with the hand, till the whole acquires a dry, smooth surface. The composition is best applied in a

liquid state, and may be made of the proper consistence by mixture with chamber lye, or soapuds, and laid on with a brush. The surface will want occasional examination, to see that the plaster is not removed by the growth of the young bark. The object is to apply some varnish or cement which shall not be so thick as to impede growth at the edge, or shall not be of such an irritating nature as to affect the neighboring living tissues, but which shall effectually prevent the admission of moisture, and the growth of injurious fungi. For small cuts use the dissolved shellac.

(EDWARD ABORN, South Seekonk, Mass.) We have submitted your four leading questions to the proper authorities in each, and are happy to supply you with answers that, on trial, will prove satisfactory:—

WHAT ARE THE TWELVE BEST VARIETIES OF AZALEA INDICA?—BY CRITIC.

The varieties of Indian or Chinese Azaleas are now so numerous, that to select twelve only, "doctors will disagree," yet I do unceremoniously say, that for all decorative purposes, the dozen is ample.

ALBA MACULATA, large, pure white, spotted with greenish yellow.

BEAUTY OF EUROPE, blush white, striped with dark red.

DUKE OF WELLINGTON, bright scarlet crimson.

LATERITIA, salmon—a dwarf variety, and shows best when grafted.

MAITLANDII, pure rose and white striped; is also a dwarf kind, and should be grafted on a stronger sort.

NARCISIFLORA, a very double pure white.

OPTIMA, rosy salmon.

PRIDE OF DORRING, dark crimson purple.

RUBRO-PLENO, very large, double orange scarlet.

SPLENDENS, salmon; not so handsome in shape, but very abundant of bloom.

VITTATA PUNCTATA, spotted salmon white and rose.

VISTA, pure icy white—dwarf habit. Amongst these you see some of our oldest varieties, with a sprinkling of the very rarest, omitting Amsena, Bealii, and some other of our nursery-men's CRACK sorts, which are, for all useful purposes, really useless, except for the attraction of their high prices.

Twelve Best Camellias—By A.—So varied and beautiful are the floral characters of this plant, that I fear all tastes will not unite on a dozen; very few, comparatively, of the new and imaginary beautiful kinds, are placed among what I call standards.

1. ALBA PLENO, the old double white.

1. CANDIDISSIMA, pure white; desirable for its late blooming properties.

2. ELEGANS (Chandler's), very large, irregular flower; dark rose, interior petals white.

1. FIMBRIATA, fringed white.

1. IMBRICATA, crimson, spotted with white.

1. LADIES' BLUSH, beautiful blush; plant of rather loose habit.

3. LANDRETHII, beautiful pink; requires rich culture.

2. LOWII, dark crimson.

3. MRS. COPE, rose white, spotted with pink.

2. QUEEN OF FLOWERS, very handsome form; rosy crimson.

3. SARAH FROST, crimson; one of the earliest bloomers—first rate in all its parts.

3. WILDERII, rosy pink; exquisite form.

No. 1 are Chinese sorts, No. 2 are English, and No. 3 are American.

Twelve Pelargoniums—Show Kinds—By A.—The Pelargonium is now subdivided by florists into several branches, such as Fanoles, Fragrant Sorts, Spotted or French Sorts, &c.; good collections consist of sorts that bloom nearly the whole year. Those named are the very

finest, selected from those that have taken prizes before the Pennsylvania Horticultural Society, in 1866.

AJAX, dark crimson and pink.

BUTTERFLY, rose and crimson.

FORGET-ME-NOT, bright scarlet crimson.

GENERAL WINSLOW, large, scarlet crimson, with salmon lower petals.

LEMONERA, rich, waxy pink.

OCELLATUS, orange, crimson, and pink.

ORBINE, bluish white, striped with crimson.

PRINCE OF ORANGE, bright scarlet.

SARAH ROSE, each petal with a crimson spot.

SNOW FLAKE, pure white, with dark velvet spot in upper petals.

VULCAN, dark crimson upper petals, bottom rose.

WILMER'S SURPRISE, rosy carmine; nothing similar in shape or color; very showy.

These are all English sorts. Plants at our May meeting have been two feet high and nine feet in circumference. Buist is the leading grower, and frequently imports them at a guinea per plant.

Twelve Fuchsias.—By P.—The dozen takes them all; the balance are worthless where the following can be had:—

ARIEL, **CLIO**, **KING**, **PRINCE ARTHUR**, light colors, with purple or red corollas.

ALPHA, **GLORY**, **HENDERSONII**, **OMEGA**, **PERFECTION**, **PRESIDENT**, **PRINCE ALBERT**, scarlet colors, with crimson, purple, or blue corollas.

QUEEN VICTORIA, red, with white centre or corolla.

MAGNOLIA GRANDIFLORA.—Frequent allusion has been made in this journal to two fine trees of the evergreen magnolia, which flourished eight miles north of Philadelphia, without any particular care or shelter. Considerable curiosity has been manifested to ascertain how they withstood the past winter. We regret to state that they were both utterly killed. Smaller specimens in the neighborhood, while they lost their leaves, survived the unparalleled cold and are looking well. We think it established that Baltimore is the most northern limit for its successful growth in the open ground, and even there it is sometimes injured. A few degrees south of that place it flourishes in brilliant beauty.

THE DEODAR.—The *Cedrus Deodara* has not proved sufficiently hardy at Philadelphia and north of it, to be any longer a tree to plant in quantities. In consequence, now is a good time for southern planters to lay in a supply. We saw at the Parson's nurseries large numbers which it was said would be sold a bargain. They are injured at the top, but would soon recuperate in a genial atmosphere.

THE LATE WINTER.—Numerous communications respecting the effects of the late winter have reached us. From the number we have selected several which have been published lately, and have to regret that space precludes the insertion of all. One in particular, from our valued correspondent George L. Taylor, Esq., of Chicago, Illinois, we should have been glad to copy. He says: "I, for one, am not discouraged, though we fared badly here with our fruit-trees. The motto of the arboriculturist should ever be, 'Nil desperandum.' The Garden City, each recurring spring, looks and becomes more worthy of the name, and that the *Horticulturist* has within the past two years more than doubled its list of Chicago subscribers, evinces a more settled purpose and growing taste in these matters, which are sources of congratulation to every friend of the cause and lover of his country."

THE PEACH CROP, &c., writes a valued correspondent, is light in Rochester, N. Y., and vicinity. The same remark applies here, and in Boston, though Mr. Hovey's fine trees have more than an average. The trees flowered well in most neighborhoods, but much of the fruit fell before it was fully established. Mr. Wilder's extensive collection will produce rather more than half a crop. We should say, after an extensive tour, that peaches this year would nowhere be as abundant as was hoped, and the peach crop poor.

THE FOREST-TREES OF AMERICA, by R. U. Piper, M. D., Woburn, Mass., is the title of a quarto livraison well printed, which we picked up in Boston the other day. It appears to us to aim at describing many things which have been described before; the *Horticulturist*, old and new, is quoted extensively; the pictures are well drawn and printed, but we do not yet quite discover its aim or drift.

THE FLOWER GARDEN, OR BRECK'S BOOK OF FLOWERS, is a new edition revised and enlarged of the excellent Boston Seedsman and Cultivator, Mr. Joseph Breck. It contains much valuable information of a practical kind, and may usefully be employed as a guide.

H. A. DREER, Seedman, 117 Chestnut St., Philadelphia, advertises seeds suitable for the season. Especially he recommends his Extra Pansies, which took the premium in April last, and have been saved with care.

TRANSACTIONS OF THE CONNECTICUT STATE AGRICULTURAL SOCIETY, 1855.—This well printed and well written volume of 350 pages, has been placed before us, by Henry A. Dyer, Esq., of Hartford, Corresponding Secretary.

Connecticut deserves every honor for having been the first American State to set apart a fund for the maintenance of free schools, thus inaugurating a policy of the deepest moment, which has been followed throughout the Union; it was also the first to urge the establishment of a Normal School, for the education of teachers; and the first to make provision for the teaching of the Deaf and Dumb. Education, indeed, has been her wealth, and we now see its results in increased attention to the culture of the earth; her citizens are pioneers everywhere; as members of useful Boards in other States to which they emigrate they take the lead in agriculture, and are rarely in the rear. The perusal of these *Transactions* has afforded us great pleasure. Mr. Huntington, their late President, has contributed his Address, a most lucid and agreeable one. Altogether this volume is creditable to its authors, and we could wish it may be perused in other States as well as at home. The addresses delivered before these societies are wells of thought and information; they form a new species of literature, engaging the thoughts and experiences of some of our wisest men, so that *Transactions* which might be thought, on a casual sight of such volumes, to be dry and dull, are among the best reading our presses produce. The work under consideration is not a whit behind its now numerous companions.

PAMPHLETS AND CIRCULARS RECEIVED.—List of Premiums of the Brooklyn Horticultural Society for September Exhibition, September 17, 18, and 19, 1856.

Fourth National Exhibition of the National Agricultural Society, at Philadelphia, October 7th to 10th. Fourteen thousand dollars offered in premiums.

List of Premiums and Regulations of the Sixth Annual Exhibition of the Pennsylvania State Agricultural Society at Pittsburg, Sept. 30, Oct. 1, 2, and 3, 1856.

Premiums and Regulations for the Seventh Annual Fair of the Ohio State Board of Agriculture, at Cleveland, September 23, 24, 25, and 26, 1856. Competition open to other States.

List of Premiums of the St. Louis Agricultural Association, to be held at St. Louis, September 23, 1856.

Charter, Constitution, and By-Laws of the St. Louis Agricultural and Mechanical Association.

Annual Report of the President of the Ohio State Board of Agriculture of the General Assembly of Ohio, for 1855. Chillicothe, Baker & Miller, Printers.

Wholesale Catalogue, for Autumn of 1856 and Spring of 1857, of Kilwanger and Barry, Rochester, New York.

Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, and Plants, cultivated and for sale by Hubbard and Davis, at the Detroit Horticultural Garden.

Wholesale Catalogue of ditto.

Descriptive Catalogue of Strawberries, comprised in the collection of Wm. R. Prince & Co., Flushing.

Catalogue of the Fruit-Trees, Plants, &c., for sale by C. B. Swasey & Co., Yazoo, Miss., wholesale.

Premium List of the First Annual Fair, to be held in Columbia, S. C., 11th to 14th of November.

CHEAP GLASS STRUCTURES.—The ensuing number will contain some illustrations of a cheap glass structure which has been built in Belgium for sixty cents a running foot, the most economical we have ever heard of. It is a subject of extreme interest to discover a mode of having cold orchard and grape houses at a moderate cost; they may be attended almost without expense when the plants are established, so that the man who goes out to daily labor may grow his ton of Black Hamburgs and reap a reward proportionate to his intelligence. His wife, if there was no other assistance, with the least exertion, could regulate the ventilation, and shut it up in high winds or during rain; but there are hundreds who work at home, who could obtain an income equal to that from a small farm by a simple grapery. At the latest exhibition in London, the prizes for grapes were taken from all the expensive houses, by a gardener who built a small shed for growing vines for sale; a few of them were left to run over the structure, as will be more fully detailed in our next number, with a neglected little border and but little attention.

It is the season now when all will be looking about how to protect their valuable plants, and to facilitate this object, we give the dimensions of a complete pit of very simple construction, which we know to have produced a succession of bloom that shamed some finer structures.

It is in form something like the pit described in the April number, page 195, but has no flue, and from it the plants are taken to a little conservatory, made by simply inclosing a portion of the piazza communicating with the drawing-room, as fast as they appear likely to bloom. It is built of one and a half inch plank made double, and the space between the two sides filled with tan, which is cheaper than manure, renewing it every two or three years. Charcoal, where it is to be had cheaply, would answer equally well.

DIMENSIONS.

Length of the outside . . 27 ft.
Breadth " " . . 8 ft.
Height in front " . . 3 ft. 6 in.
" back " . . 7 ft. 6 in.
Length of the inside . . 24 ft. 4 in.

DIMENSIONS.

Breadth of the inside . . 5 ft. 8 in.
Height in front " . . 4 ft. 6 in.
" back " . . 6 ft. 8 in.
Outside front above ground 1 ft. 8 in.
" back " " 4 ft.

Probably another foot in breadth, making 9 feet, would be preferable.

It fronts S. S. E. with the door of entrance at the W. S. W. end, which in winter is closed,

in addition to the door, with matting of straw. There are 8 sashes of 6 by 8 glass, with straw mats, and half-inch board covers.

There is one shelf on the interior front, running the whole length for small pots, and behind, three shelves of half the length of the pit, to allow room for the largest plants to stand on the ground.

This pit should be drained in some way, say by digging down to sand, but if that is impracticable, dig one or more holes and fill them with broken stones, to keep the bottom dry.

Again, as to graperies: Lean-to houses are considered better adapted for *forcing-houses* than those having span roofs, not so much in respect to the quantity of light which passes into them, as in their longer retention of the heat which enters with light; and which, as every gardener knows, escapes more rapidly from houses having glass on all sides, than from those having only one side, and that facing the south. To carry out, says an authority on this topic, the ripening of fruit to its highest point of excellence, the leaves, from their earliest development, must be kept fully exposed to light, to insure the healthy action of their organs in furnishing an abundant supply of the necessary food for the fruit while in a young and growing state; and as the fruit approaches maturity, light, and a more full exposure to air than what may even be necessary during the period of growth, should be admitted, to enable the vital force within the fruit itself to perform the changes requisite to give flavor and proper consistence to its component parts. To effect this, forced fruits should be allowed to ripen slowly, that the processes whereby their characteristic qualities are obtained, may be formed without being hurried, and the fruit consequently may attain its fullest development of size, color, and flavor.

PEARS IN NEW JERSEY.—E. B. Edwards gives us as his experience of pears, in the neighborhood of Haddonfield, N. J., as follows:—

Duchess d'Angouleme (dwarf), prolific bearers.
 Louise Bonne de Jersey, " " "
 Honey Pear, ripe in August (dwarf), prolific bearers.
 Belle Lucrative, " " "
 Doyenné Robin (first season); " very full of pears.
 " Boussook, " moderate bearer.
 Glout Moreceau (five years from bud), dwarf; no fruit.
 Doyenné Goubault, dwarf; fair show of fruit.
 Columbia, dwarf (five years from bud), no fruit.

I have between forty and fifty kinds of dwarf pears, about half of them obtained four years ago; the remainder last fall. The Doyenné Boussook, described by Downing as Gray Doyenné, we kept till Christmas, and thought it unsurpassed, in flavor, by any pear.

THE MICHIGAN STATE AGRICULTURAL SOCIETY will hold its eighth annual fair at Detroit, Sept. 30th, Oct. 1st, 2d, and 3d. We have examined the premium list which embraces a wide range of subjects, and is on a liberal scale. The Michigan Society is very far from being on the "old fog" list alluded to with justice by Jeffreys, in August.

LOMBARDY POPLAR.—A gentleman of Illinois writes us as follows: "Please record my vote for Mr. Allen, on the Lombardy Poplar question, with an express restriction, by way of amendment, that planters are not to set them out *à la* ten-pin alley. There is no tree, native or foreign, that will flourish in this climate, and exactly fill the place of the Lombardy Poplar for a break in the scenery of low, flat tracts. When set from cuttings, as it ought to be, it will never sucker. The L. Poplar man has lately planted a *sucker*, grown from a tree that suckered by reason of its lower buds not being removed from the cutting, and which has naturally suckered again.

THE EXHIBITIONS.—The period of exhibitions is upon us. Our readers will not forget the gathering of the American Pomological Society, at Rochester, on the 24th of this month, and at the United States National here on the 7th of October, we expect to meet many friends. As a matter of reference, we insert a table of the dates of the several shows in the various States, and the names of the Corresponding Secretaries:—

NATIONAL AND STATE SHOWS FOR 1856.

	Cor. Secretary.	Place.	Time.
United States,	Wm. S. King,	Philadelphia,	October 7 to 10.
American Pomological,		Rochester, New York,	September 24.
Alabama,		Montgomery,	November 11 to 14.
California,	Warren,	San Jose,	October 7 to 10.
Canada East,	Wm. Evans,	Three Rivers,	September 16 to 18.
Canada West,	J. P. Litchfield,	Kingston,	September 22 to 23.
Connecticut,	Henry A. Dyer,	New Haven,	October 7 to 10.
Georgia,	J. W. Lewis,	Atlanta,	October 20 to 23.
Illinois,	J. A. Keanicott,	Alton,	September 30 to October 3.
Indiana,	J. A. Wright,	Indianapolis,	September 30 to 25.
Iowa,	M. Warden,	Muscatine,	October 8 to 10.
Kentucky,	W. C. Lytle,	Paris,	September 30 to October 4.
Maine,			October 28 to 31.
Maryland,	Samuel Sands,	Baltimore,	October 21 to 24.
Michigan,	J. C. Holmes,	Detroit,	September 30 to October 3.
Missouri,	J. S. Miner,	St. Louis,	September 23.
New Hampshire,	J. O. Adams,		October 8 to 10.
New Jersey,	J. H. Frazee,	Newark,	September 10 to 12.
New York,	B. P. Johnson,	Watertown,	September 30 to October 3.
North Carolina,	T. J. Leman,	Raleigh,	October 14 to 17.
Ohio,	George Sprague,	Cleveland,	September 23 to 26.
Pennsylvania,	R. C. Walker,	Pittsburg,	September 30 to October 3.
South Carolina,	A. G. Sumner,	Columbia,	November 11 to 14.
Tennessee,	E. G. Eastman,	Nashville,	October 7 to 10.
Vermont,	J. A. Beckwith,	Burlington,	September 9 to 12.
Virginia,	F. G. Ruffin,	Richmond,	October 28 to November 1.
Wisconsin,	G. O. Tiffany,	Milwaukee,	October 8 to 10.

STRAWBERRIES.—The *Cincinnati Valley Farmer* rejoices greatly over the strawberry business of this season, and says, in June: "Mr. Culbertson, alone, is now bringing daily into market one hundred bushels of strawberries."

BROWN AND GRAY.—In our last "gossip," we gave a short notice of Robert Brown, the great botanist; this recalled to the memory of a friend, the following happy *jeu d'esprit*, written by a lady on the closing of Dr. Gray's botanical lectures at the Odeon, Boston:—

"Though Flora's bright colors her children adorn,
Her apostles are clad in more sober array;
In England, they boast nothing better than Brown,
In our happy land, nothing brighter than Gray."

HERMANN, MISSOURI, June 25, 1856.

J. J. SMITH, Esq.—In the May number of your *Horticulturist*, I found a notice to the Corresponding Secretaries of the horticultural societies, to send in their names, as you intend to publish a list of them. This seems to me to be an excellent idea, as it will make it much easier for all to send each other such notices and communications as may serve to promote the common cause. We have reorganized a society here, to promote the culture of the grape, pomology, and horticulture. Our means are small, yet all the members take a lively interest in the matter, and I hope we shall do something in time. I think this country peculiarly adapted to fruit culture, and the culture of the grape, in which we have engaged pretty extensively. Although the Catawba has failed us several seasons, we have several other varieties which, I think, will prove very valuable, and make wine growing the most profitable business we can engage in. We make an excellent wine here from the Catawba, of which I shall take the liberty of sending you a sample next fall, as, also, some specimens of apples. The Catawba is much subjected to mildew and rot, but will, nevertheless, even in

the worst season, always pay the diligent cultivator for his trouble; we have had examples here even of extraordinary yields. The vines suffered much last winter, and, in some vineyards, were killed to the ground, but the grapes we have look very fine. Our fruit-trees also suffered much, but I hope the most of them will live. I have an orchard of 1,500 bearing trees, and am confident, from long experience, that apples and peaches succeed here better than in most parts of the Union. From four trees of the Yellow Bellflower, planted in 1847, I gathered, last fall, 49 bushels of such apples, as would have done your heart good to look at, after making two barrels of cider from the apples that dropped before the final gathering. About peaches, if you will pardon my gossiping, I can tell you, that a friend from Jersey declared that they fairly beat all New Jersey peaches he had ever seen. This will serve to show what we can do in peach culture. The pear also promises well, but has not been tried long enough yet. The Bartlett, Beurré Bosc, Frederick of Wurtemberg, Charles of Austria, Louise Bonne de Jersey, Beurré Capiaumont, and St. Germain, produce very fine fruit, and are regular and abundant bearers. Plums, nectarines, and apricots, I have given up, as the little "Turk" destroys them all. The Mayduke, Early Purple Guigne, Belle de Choisy, and Black Tartarian Cherries, all do well here, but all the other Heart Cherries I have tried are poor bearers. We can also raise all the smaller fruit in abundance, except gooseberries, which mildew. Wishing you and your valuable journal (which, by the by, is worth four times the money it costs) all possible success,

I remain yours, respectfully,

GEORGE HUMMANN,

Cor. Sec. of Western Fruit Growers' Asso. and Hort. Soc., at Hermann, Gasconade Co., Mo.

[We are pleased with Mr. Hummann's letter, and shall hope to hear from him again, regarding fruit culture in Missouri.—Ed.]

ALTON, ILLINOIS, July 11, 1856.

DEAR SIR: The season has now so far advanced, that the effect of the winter's cold is plainly discernible. Much more injury has been done than at first sight appeared. One fact is plainly proven. The condition of a tree, as to growth, has much to do with its ability to stand excessive cold. Trees that were very vigorous, that made a fine growth, and also those that made scarce any, escaped, while those that made a partial growth—that is, those that seemed intermediate—have been killed.

Is it not for this reason: the strong growers, full of vigor, ripened and perfected their wood; the feeble growers, making but little effort, were not so filled with sap as to be affected, going to rest early, from their inability to make further effort, while the medium grower was caught by the cold before it had accomplished its purpose? The result is as stated, and that, too, without regard to sorts. Brinklé's Oregon Raspberry is a great acquisition. It has stood the severe cold without injury, is very prolific, and of fine flavor. The drought has injured all our early apples, rendering them small, and comparatively worthless.

Yours,

JAMES E. STARR.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The stated meeting of this Society occurred on Tuesday Evening, July 15, E. W. Keyser, Vice-President, in the chair. Premiums awarded on this occasion were as follows:—

By the Committee on Plants and Flowers.—*Patentas*—for the best display, and the second best display, to J. J. Habermehl, gr. to J. Lambert. *Collection of twelve Plants*—for the best, to Chas. Sutherland, gr. to John Anspach; for the second best, to Thos. Robertson, gr. to B. A. Fahnestock. *Collection of six Plants*—for the best, to Mark Hill, gr. to M. W. Baldwin. *Specimen Plant*—for the best, to Chas. Sutherland, for *Olerodendrum fallax*; for the second best, to John Pollock, gr. to James Dundas, for *Adamsia verticolar*. *Table design*—for the best, to H. A. Dreer. *Baskets*—for the best, to J. J. Habermehl; for the second best, to Mark Hill. *Bouquets*—

for the best pair, to J. J. Habermehl; for the second best, to H. A. Dreer. A special premium for a fine collection of double Hollyhocks, from Thos. Richardson, New York.

By the Committee on Fruit. *Grapes*—for the best grown in pots, to Richard Mathews, gr. to Jos. S. Lovering; for the best three bunches of a black variety, to James Bonner, gr. to C. P. Fox; for the second best, to Chas. Sutherland, gr. to J. Anspach; for the best of a white variety, to James Bonner; for the second best, to John Reilly, gr. at Insane Asylum. *Apricots*—for the best twelve to John McLaughlin, gr. to Isaac B. Baxter. *Pears*—for the best, to the same. *Gooseberries*—for the best, to the same; for the second best, to Wm. Grassie, gr. to John Tucker. *Raspberries*—for the best and for the second best, to the same. *Special Premiums*—one dollar each for Red Currants and for Black Currants, to Wm. Grassie, and for White Currants, to A. L. Felten. Also, for a fine display of various fruits, a premium of three dollars to A. L. Felten.

By the Committee on Vegetables. *Tomatoes*—for the best, to James Jones, gr. at the Girard College; for the second best, to Wm. Grassie; for the best display by a market gardener, to A. L. Felten. A special premium of one dollar, to James Miller, gr. to R. Cornelius, for four fine specimens of the Lord Sherbourne Cucumber.

OBJECTS SHOWN.—*Plants*—From J. Anspach's collection.—*Begonia Prestonensis*, *Cuphea platycentra*, *Vinca rosea*, *V. oculata*, *Hydrangea hortensis*, *H. japonica*, *Rondeletia speciosa*, *Taberna montana coronaria*, *Nerimbergia grandiflora*, *Fuchsia Fair Rosamond*, *Clerodendrum Kämpferi*, and *C. fallax*.

From B. A. Fahnestock's. *Clerodendrum Kämpferi*, *C. squamatum*, *Fuchsia Macbeth*, *F. Mad. Sontag*, *Medinilla magnifica*, *M. urophylla*, *Alchemilla venusta*, *A. grandiflora*, *A. Boothii*, *Gloxinia rubra*, *G. imperialis*, and *Hydrangea hortensis*.

From James Dundas's. *Cuphea platycentra*, *Nerimbergia gracilis*, *Torreia Asiatica*, *Clerodendrum Devonianum*, *Begonia semperflorens*, *B. nitida*, *Vinca alba*, *V. rosea*, *Isoleria Dicaleneana*, *Adamsia versicolor*, *Justicia bicolor*, *Fuchsia Darling*, and *F. Sidonea*.

From M. W. Baldwin's. *Pentas carnea*, *Ixora coccinea*, *Fuchsia Mad. Sontag*, *F. Kerrii*, *Allamanda neretifolia*, and *Mueandra frondosa*. *New*.—*Petioles superba*.

From John Lambert's. Two extensive displays of Petunias, comprising seventy pots.

By A. L. Felten. A *Cereus grandiflorus*.

From Thomas Richardson, New York. Some forty cut flowers of Double Hollyhocks.

Designs, Baskets and Bouquets.—By Henry A. Dreer.—A large table design.

By J. J. Habermehl.—A fine basket and a pair of bouquets.

By Mark Hill.—A basket.

By H. A. Dreer.—A pair of hand bouquets.

By R. Kilvington.—A bouquet.

Fruit.—From J. S. Lovering's.—Nine pots of Grape-vines in full bearing.

From John Tucker's.—A very large Pineapple in a pot. Raspberries, two kinds, and Black Currants.

From John Anspach.—Grapes—three bunches Black Frankenthal and three white Frontignac.

From C. P. Fox's.—Grapes—three bunches of each, a black and white variety.

From the Insane Asylum.—Grapes—white and black varieties.

From Isaac B. Baxter.—Apricots—twelve Baxter's seedling. Pears—monle bouche. Gooseberries—three kinds. Wilder and Red Seedling Raspberries, and Black Currants.

From A. L. Felten.—Raspberries—Antwerp and early blue. Gooseberries—three varieties. Large Black, White, and Red Currants. Early harvest Pears. Mulberries and Cherries.

Vegetables.—By A. L. Felten.—A large and fine display.

By James Jones, Girard College.—Tomatoes.

From John Tucker's.—Tomatoes.

From R. Cornelius's.—Four fine Cucumbers.

By M. S. Wickerham.—Specimens of the Chick Pea—*Cicer arietinum*.

GENESEE VALLEY HORTICULTURAL SOCIETY, at ROCHESTER, NEW YORK.—The usual June exhibition of the above-named Society, was held at Corinthian Hall for two days, and the display of cut flowers, floral ornaments, and greenhouse plants was equal to former ones. The Strawberries were in perfection, and some forty varieties were shown.

Ellwanger and Barry, H. E. Hooker & Co., Selah Matthews, and George Newland, were the principal competitors.

"Hooker's Seedling" was admired by all, and your readers may be assured that we can boast of a most superior berry in this new seedling. It will rank with "Burrs' New Pine," although distinct from that in character. It is uncommonly juicy and high flavored, a large berry, and a most prolific bearer. I subjoin a particular description of it, only adding that its parentage may be either from the British Queen or Leviathan seedling.

Description.—Very large size, some of the berries measuring five and a half inches, of dark red, almost black when very ripe, with beautiful gloss, form conical, but very frequently flattened at the top and sides in large specimens.

The flowers are perfect, and the vine a strong grower, enduring the severest cold without injury. The fruit is produced for a great length of time, having ripe berries and blossoms upon the same fruit stalk. For four years, during which time it has been cultivated, it has never failed to produce an abundant crop.

The "Hooker's Seedling" will prove a most valuable market berry, it being of a uniform large size, and showy. The premium for best quart was awarded to this berry.

While I deem the "Burrs' New Pine" the very best berry (for flavor) now extant, I am satisfied that all the excellence of the "Hovey's Seedling," "Bicton Pine," "McAvoy's Superior," or any of the best fruits of this class are combined in the "Hooker's Seedling." It is a great acquisition, and is, no doubt, to become a popular fruit.

Ellwanger and Barry, amongst their numerous collection, presented their own "Genesee Seedling" and No. 1, which last is a high-flavored berry. The "Trollips Victoria" an English variety introduced by them, is a mammoth berry of good flavor, and will become much valued for the amateur, and should be in all collections.

Mr. Newland presented, amongst his large collection, the "Chilian Pyramidal," which deserves attention for its high flavor; it is said to be a good bearer, and ranks No. 1.

We can now enumerate to represent—

New York.—Genesee Seedling, of Ellwanger and Barry; their "No. 1," of Ellwanger and Barry; and "Hooker's Seedling."

Massachusetts.—Hovey's Seedling, Walker's Seedling, Jenney's Seedling, and Bicton Pine.

Pennsylvania.—"Moyamensing" and "Cushing."

Ohio.—"Burrs' New Pine," "McAvoy's Superior." All first class berries.

The Editor of the Horticulturist was looked for here; and with our regrets that he did not come, we shall tell him that in being absent he was the loser.—J. H. WATTS.

[We fully coincide with the latter sentiment. How clever it would be for an editor to be ubiquitous.—Ed.]

CHESTER COUNTY HORTICULTURAL SOCIETY.—The stated meeting for July was held in the Society's Hall, on the 12th inst., Vice-President J. H. Bull, Esq., presiding.

Plants and Flowers.—From the collection of Josiah Hoopes, viz: Ten specimen plants of *Gloxinias*: *Begonia parviflora*, *B. lanceolata*, *B. Prestonensis*, *Euellia formosa*, *Russelia juncea*, *Cissus discolor*, *Torrensis asiatica*, *Centradenia florabunda*, *Nepenthus distillatoria*, *Lycopodium arboreum*, *L. denticulatum*, *Hoya bella*, *Echites picta*, *E. Nutens*, *Acrostichum alceifera*. *New.*—*Fuchsia Mrs. Story* and *Prince Albert*, *Cephalotus follicularis*, *Geranium amazon*, and golden chain.

From J. L. Darlington & Co. Fine plant of *Fuchsia Empress Eugenia*, and a splendid collection of seedling double Hollyhocks. Also, a handsome bouquet.

Fruit.—From J. & M. Bennett's. Red and purple Antwerp and common black Raspberries, red Dutch and black Naples Currants, Kentish, and two seedling varieties of Cherries.

From J. H. Bull's. Orange, Red Antwerp, and Cushing Raspberries.

From S. P. Hoopes's. Franconia Raspberries.

From M. B. Thomas's. Three varieties of Gooseberries.

From Josiah Hoopes's. Raspberries, viz: River's Monthly, Knevett's Giant, Pastoff, Orange, Hudson River Antwerp, Franconia, Cushing, River's Antwerp, Common Red Antwerp, Vice-President French, Ohio Everbearing, Col. Wilder, Thunderer, and Common Black.

Trot's early Red Peaches (forced), and Red Dutch Currants.

Two gentlemen were elected members.

By order of the

PUBLICATION COMMITTEE.

Calendar of Operations.

SEPTEMBER.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—All vacant ground should be turned over, and left in a rough state that it may be pulverized by frosts. Strong loamy soils cannot be profitably cultivated unless advantage is taken of the mellorating and gratuitous fertilizing properties of the atmosphere. A small portion of the subsoil may be annually brought to the surface, in order to liberate and render available any inorganic substances in its composition. Soils of a ferruginous character, especially, require such treatment, and it is of much importance to turn them over occasionally, in order to expose new surfaces and bring the hitherto excluded earths to the action of the atmosphere. Frost is a valuable auxiliary in this matter. In freezing the water expands and the earthy particles are separated, and during the thawing process a gradual crumbling and granulation take place, producing a friability not readily attained by any other means.

There are few soils actually deficient in inorganic materials, were they duly exposed to the air, so that their latent principles of fertility would be rendered active and available for the uses of vegetation.

A further object of much moment, resulting from the exposure of soil to winter frosts, is the destruction it occasions to insects and their larvae, by disturbing and breaking up their lurking places and nests. This mode of destroying insects is more effectual than is generally supposed. Indeed, when a thorough system of cultivation is pursued, it is seldom found necessary to resort to expedients which are frequently rendered necessary to counteract defective management.

The winter crops should be encouraged towards maturity by frequent cultivation. Celery should be slightly earthed up as it progresses in growth. Some cultivators prefer growing it to its full size before earthing up, others earth up so closely as to injure growth. A medium course is perhaps preferable. When the earthing up is delayed too long, blanching will be imperfect, and size will be gained at the expense of quality.

Lettuce should be planted in frames, for early winter use, a few radish seeds may be sprinkled among the plants.

HARDY FRUIT.—Strawberry plantations may be set out this month. Select plants from healthy vines, and mulch immediately after planting, if convenient. Those potted last month for forcing, should receive plenty of water, and be kept clear of runners.

GATHERING FRUIT.—Pears should be gathered before being fully ripe. All of them are improved when ripened in the house, and many of our best sorts may be ripened to insipidity by hanging too long on the tree. Fruit that is to be kept for months must be very carefully handled; the slightest bruise favors early decay. A good criterion is to gather just as the seeds change to a brown color, which is easily ascertained.

GLASSY.—If the treatment recommended in former calendars with reference to air and temperature has been fully carried out, the young wood will be well ripened, the best safeguard against rigorous winters. Still keep the house open night and day. Closing up only during heavy rains.

GREENHOUSE.—As the summer flowers wane, and previous to arranging the plants for winter, the house should undergo all necessary repairs. Fumigating strongly with sulphur will completely rout all the spider and bug families. After the plants are taken in, ample ventilation should be given. The house should not be closed until there is indication of frost. The advantage and necessity for cool, low night temperature will, in a few years, be more generally understood. The preserving of a uniform temperature has been the cause of many disappointments in the artificial cultivation of plants. Water must be judiciously applied. The supply must be gradually withdrawn as cold weather approaches, that plants may be better enabled to stand cold without injury. Let the quantity at each application be sufficient to thoroughly moisten all the soil, but lengthen the periods between the applications.

Withhold water from achemenes as soon as the leaves fade. Encourage young calceolarias, and cinerarias by careful watering. Syringe them slightly in the morning. All watering should be done in the early portion of the day. Cuttings of all half hardy greenhouse plants will strike root very readily at this season. Keep them regularly moist but not wet; a small frame with sash is the most convenient mode of propagating. Keep close and shaded during sunlight; remove the shade evening and morning, and open the sash at night.

Chinese Primroses may be shifted into six inch pots to flower. All plants intended for winter flowering should not be over-potted. The more roots the more flowers, or rather, the plants will flower most profusely when the pots are well filled with roots.

Many of the flower garden plants, carefully lifted and potted will afford a show of flowers during winter. Scarlet pelargoniums, salvias, spiraeas, wiegelas, Forsythia viridissima are suitable for this purpose; place them in a shady and sheltered spot for a week or two, to encourage rooting.

Hyacinths and other bulbs should be potted early. A friable light turfy soil will suit them well; let the pots be particularly well drained. After potting, cover them with 8 or 10 inches of soil, or coal ashes. Here they will make roots, and when wanted to flower a few can be taken into the greenhouse. A succession of bloom can thus be kept up for many months.

PLANTING TREES.—Those who intend to plant in the fall should immediately attend both to the preparation of the ground and selecting the trees. With regard to the latter, a better estimate can be made of the general habit and health of a plant before the fall of the leaves. It may be necessary to caution beginners against the prevailing error of selecting the *largest* trees. Medium sized trees come up with better roots, are easier handled, less liable to casualties in transportation, and grow faster than those that have been drawn up tall, weak, and unshapely in nursery rows. Old trees have strong roots, and these must necessarily be cut in removing. The tops must then be pruned down, to correspond with this mutilation, in order to secure a healthy start. So that there is nothing gained in the way of size. Even should they live, it is only an eking out a miserable existence for two or three years; meanwhile the smaller tree far exceeds it both in health and height.

The question as to whether autumn or spring planting is most successful, has been often discussed. The arguments favoring autumn planting are based upon the well-known fact that the roots and branches may be separately excited to growth. This is well exemplified in the rooting of slips or cuttings. To favor root formation the cuttings are placed in soil kept warmer than the surrounding atmosphere. In the fall the soil is warmer than the air; the formation of roots proceeds while the branches are dormant; when spring arrives, the balance of the tree being in a great measure restored, growth commences vigorously, and the plant becomes established and able to bear up against summer aridity.

But to insure these good results, planting should be proceeded with *immediately after the leaves have fallen*; if delayed beyond October success will be less certain.

Holes should be made 6 or 8 feet in diameter and 14 to 18 inches deep. In clayey subsoils, breadth should be considered of more importance than depth. A portion of well pulverized soil should be in readiness when planting season arrives. It is poor economy to pay a couple of dollars for a tree and then begrudge a shilling for planting it.



KNIGHT'S EARLY BLACK

[illegible]

Synonymy: *Pteromalus* *sericeipes* *n. sp.*
Synonymy: *Pteromalus* *sericeipes* *n. sp.*

[illegible]

1. The amount of light entering the eye is regulated by the iris and the pupil. The iris is a muscular structure that can contract or relax to change the size of the pupil. The pupil is the opening in the center of the iris through which light enters the eye.

Rural Cemeteries, No. 3. Conclusion.

"Man is a noble animal, splendid in ashes, and pompous in the grave, solemnizing nati-
vities and deaths with equal lustre, not omitting ceremonies of bravery in the infamy of his
nature."—SIR THOMAS BROWN.



THE great difficulty experienced by planters of indi-
vidual cemetery lots, is in their want of knowledge
as to plants that will succeed in particular situa-
tions. Many lots are in shade either totally or
partially; to place roses in such spots, would
be sure to be attended with disappointment,
while, with a proper selection of shrubbery, suc-
cess would be insured. Our list, as in the former
number, is not complete, but will prove sugges-
tive to lot-holders in cemeteries as well as for
private gardens.

LIST OF SHRUBS AND PLANTS THAT SUCCEED IN THE SHADE.

Rhododendrons and *Kalmias*,

The Belgian Azaleas,

The Hollies,

Hemlock,

Aucuba Japonica,

Dwarf Horsechestnut,

Box-Trees,

Stuartia's,

Yews,

American Arbor Vita,

Siberian " "

The Chinese will not succeed.

Dogwoods; the *Sanguinea* is very ornamental
and suitable.

Snowberries,

Junipers,

Euonymus Japonica,

Privet,

Clethra Alnifolia,

Spice Wood,

Hawthorns,

Hydrangea,

Lily of the Valley,

Petewinkle,

Ivy and *Ferns*,

Mahonias,

Daphne Pontica,

Wild Violets,

Hemerocallis,

Anemone Pennsylvanica.

Monuments.—With regard to the material of which monuments may be con-
structed with a view to durability, it is acknowledged that the best sandstones
are every way suitable. They should be made of the compact, fine, light colored
kinds, in order that they may be easily worked into form as sharp and delicate as
marble itself. The stains of weather, and the falling of leaves, would not dis-
figure them. Granite we have already indicated, but *Bronze* is better adapted to
statues and reliefs, as well as to vault entrances, than any other substance, and is
as enduring as could be desired. In Greenwood Cemetery, New York, there are
several good examples, especially the monument to De Witt Clinton, executed
by Brown, an excellent artist of that city, who works in bronze equal to any
European. Effigies are particularly suitable in this material, and we hope to see
it much more generally employed, as it unquestionably will be; this is the enduring
and yet plastic material so much wanted.

As it is not to be expected, however, that we shall very soon give up the best
marble, this should be protected by a canopy or temple. In the continental ceme-
teries, it is usual for a portion of the ground to be appropriated for sculpture, by
the erection of covered ways for numerous families who patronize the fine arts;
such may be seen at Frankfort on the Maine, where we especially remember the
temple of the Bethman family, occupied by some of the finest statuary of Thor-
walsden.

While we write, a very sensible little volume has been laid on our table, entitled "Hints concerning Greenwood, its Monuments and Improvements, by N. Cleveland," from which we make a few brief extracts to the point :—

"*Symbolic Devices.*—Symbols, in monumental sculpture, if happily conceived and well executed, are always gratifying. The rareness of success shows the difficulty of the undertaking. On the other hand, in no department of art, perhaps, is failure so glaring or so shocking. It is painful to be forced to smile at objects which are designed, and which ought to compose and to elevate our thoughts. Let the man who contemplates such a work, remember that he is about to invite scrutiny, and to challenge criticism. Let it be well considered, lest, peradventure, he record some expensive folly, in a material whose durability would then be its greatest objection. Such a work should call into requisition the choicest talent and the highest skill. Genius and piety should furnish the design ; judgment and taste should superintend the task.

"On a point of this nature, our suggestions must, of necessity, be general. Not a few derive their symbolism from the ancients. The lachrymatory, the mutilated column, the inverted torch, are very frequent. To be classic is the highest ambition of some. With them, appropriateness and consistency are matters of small importance. Were there no other objection to the class of objects in question, it would, in my mind, be sufficient, that imitation and repetition are fatal to sentiment, and nullify, if they do not reverse, the intended effect. Let it also be considered that these symbols are pagan, not only in origin, but in purport. They are the mute language of a grief, to which consolation was unknown—the sad hieroglyphics of despair. They say nothing of faith, or hope, or immortality, or heaven. What have Christians to do with such emblems ?

"One other kind of mortuary memorial asks our attention, and it is the highest of all. I refer to personal representations in the form of statues and reliefs. These may be copies from nature, or ideal forms ; they may be human, angelic, or allegorical. They all belong to the province of sculpture, and many of her best triumphs have been won on this field. Would that it were far more common to resort to this mode of adorning the tomb and commemorating the dead.

"To those who have the desire and the means of securing these most beautiful and expressive of all memorials, our advice is summed up in a word : employ the sculptor. The term is sufficiently definite, and certainly does not include all who have learned to chip and hew in stone. Here, as in poetry, to fall short of excellence, is to be nothing, or worse. When commissions in sculpture shall be confined to able and educated artists, we shall, at least, be spared some gross absurdities. Cherubs, with babies in their arms, will no longer be seen in *downward* flight ; and marble seraphs will cease to *weep*, and *break their harps*, because a mortal has exchanged the woes of earth for heavenly bliss."

The danger incurred by copying other monuments, is set forth in the following passages :—

"In naming examples with commendation, let it not be imagined that we advise any to copy them. To this, there are weighty objections. Towards the sculptor or the architect who conceived the beautiful design, such a course is meanly piratical. It invades also the rights of the proprietor, who has paid liberally that he might have something peculiar and unique.

"A copy made by common workmen (and no others will attempt the wrong) is rarely successful. Often it is only a caricature. To copy is slavish, as well as mean. It discourages originality, and creates that monotony which is a positive vice in the province of taste. If you see a design which you like, apply to the artist who produced it. If he deserve the name, he will give you, not a repetition

of his own idea, but another conception, perhaps a happier one. Surely this is far more honorable than the course of those who employ mere artisans to steal the property of genius."

Enough has been said, perhaps, to convey leading ideas on this interesting topic, and though the subject is by no means exhausted, we shall not detain the reader much further than to remark, that simply to designate the boundaries of lots by stones, six or eight inches high, at each corner, with the name or initials of the owner, so that the grass may be mowed uniformly, may be sufficient where a hedge is not desired; to plant no *large* trees in *small* lots; to avoid straggling shrubbery, or anything that throws up suckers; to eschew poor iron railings or tawdry monuments; in short, to improve *durably* rather than superficially, for the present.

There is a subject connected with the interment of the dead, in this country, which it will be proper only to allude to in a journal like the present. It is one to which our advancing civilization and increasing population will; ere long, command attention. We mean, the right of control over the remains of deceased persons. It has been generally conceded, that it exists in the nearest relative, and to that individual it is supposed the power attaches of giving an order for removal from one spot to another. We know of no law in practice which says how this shall be regulated; the practice, in fact, is loose in the extreme. Almost any individual, in our great city, may go to the Board of Health, and receive a "permit" to remove the body of any other person from one grave to another, or from one cemetery to another, and the nearest relative may never hear of the circumstance. It is true, cases where improper motives may exist for, such improper interference are rare, but still, they may and do occur. The Board of Health, itself irresponsible, gives very little attention, if any, to the matter; the permission is granted as a matter of course, without due inquiry, and the deed is done without any official having had the slightest evidence of the nearness of relationship, or of the right to interfere. At least, such was the loose system when the writer was formerly a member of the Board.

In Europe, especially in France, every check is placed upon irregular action in this matter. Offices exist to which application must be made before any person can take an initiatory step in such a proceeding, and any one attempting such an act is dealt with as a felon. It appears to us, that no removal should be allowed without minute scrutiny as to the right to the possession of the deceased, and that wise legislation must sooner or later be introduced among us to insure the proper respect for the cherished remains of mortality. The first steps have been taken for this purpose, by the formation of rural cemeteries; it would be completed by attention to the point we have indicated.

With these remarks we conclude our own experiences, for the present, with the single additional suggestion, that whatever the improvements may consist in, high keeping is one of the most essential parts of the management of rural cemeteries. The roads and walks must be regularly and carefully attended to; the grass should be cut early and frequently; weeds and brambles of all kinds should be exterminated as soon as they appear, never being allowed, on any account, to scatter their seeds. Iron railings *must* be regularly painted with good materials, if they are desired to be even temporarily what they were designed to be. It should be the duty of the Superintendent, or an assistant, to pace every walk daily, with a basket, to pick up the loose papers which visitors, and children especially, are so apt to unroll from their eating stores, and throw carelessly about; to trim off a dead limb or branch whenever it appears, and generally to exercise those duties which a *good eye* for all that is neat so readily learns to understand; without this

care, the visitor and lot-holder will often have their feelings pained; with it, and with attention to what we have already enforced, a rural cemetery serves more to console the bereaved than volumes of poetry, or cold dissertations on the duty of resignation.

CHERRIES—THE KNIGHT'S EARLY BLACK.*

BY P. BARRY, ROCHESTER, N. Y.

IN all parts of the United States where the free growing sorts of cherries, classed under the heads of "Hearts," and "Bigarreans," succeed well, the Early Black of Knight proves to be one of the very best of all the black varieties. I think it superior to the Black Tartarian in flavor, equally productive but less rapid and symmetrical in its growth. It is as good as the Black Eagle, and more productive.

It entirely supersedes the old Black Heart and several varieties of it that are in cultivation. The tree is hardy for its class, a moderate grower, forming like the Black Eagle a *round* regular head. The fruit, when well ripened, is nearly black, with that uneven surface which characterizes the Black Tartarian. The flesh or pulp is rather firm, deep purple, abounding in rich high flavored juice.

Ripe here, lat. 43°, usually first week in July; this season being late, 12th to 15th July. When I say *ripe*, I mean *fully* ripe, not *half* ripe, as cherries are usually picked and sold.

It is said to be, in common with the Black Eagle and Elton, a cross of Mr. Knight's, between the May Duke and Bigarreau or Yellow Spanish, but I have still doubted this. The Black Eagle and this variety are evidently from the same parents, as both trees and fruit have many common characteristics, but the Elton, as almost everybody knows, is altogether different. The tree in vigor, habit of growth, foliage, and *all*. The fruit in shape, color, flavor, and almost everything. My impression is that Mr. Knight, who was not infallible, any more than you or I, made a mistake here, and that the Black Eagle and Early Black were produced by a cross between the Bigarreau and Black Tartarian.

This, however, is a matter of little importance to the cultivator, but it claims the attention of the pomologist, and I take this occasion to throw out the hint.

You will know by this time that the fruit growers of Western New York had a very interesting meeting at Syracuse, on the 27th and 28th days of June. *The Country Gentleman*, of the 10th July, contains a very good notice of the main points of proceedings.

Touching the subject of cherries, however, I find one branch of the discussion omitted; that was the *best soil*.

The great cherry difficulty in the West is a malady known as the *Gum*. Very little of it has been seen in Western New York, but the evidence adduced by cultivators at the meeting above referred to, rather proved that this disease was most prevalent in light sandy soils, and least so in strong and rather stiff gravelly loam. I think this is worthy of note as tending to show that this disease has its origin more in the soil than in climate. It agrees in the main with my own experience.

The Reine Hortense grows in favor, for although it is a moderate bearer, yet the fruit is so large, beautiful, and refreshing, having just enough acid, and the tree so hardy, belonging to the "Dukes," that it seldom fails to reward the cultivator. For the West, where only *very* hardy sorts can be grown, the Louis Phi-

* See Frontispiece.

lippe, a sort of early Morello, ripe July 10, will be found a great acquisition, I believe.

It is nearly as large as May Duke, round deep red, acid but mild and very rich, as a kitchen and preserving fruit it is certainly first rate in its season. The Royal Duke is another noble fruit of the hardy sorta. Donna Maria, is earlier than any of these, and also valuable, of the Morello class.

The Monstreuse de Mezel is a magnificent fruit of the largest size, but an awkward tree. Governor Wood stands unrivalled among the sweet light red sorts of free growth.

Mr. Chas. Downing brought some of the great Bigarrean from West Chester half ripened, to Syracuse; they were on the branches, and gave evidence of great productiveness and size.

Mr. D. recommends it highly; he says he would have it in a small collection of six sorts. We have a bearing tree, but the crop this season was light and not promising, compared with others beside it. The tree evidently wants age. I might spread this cherry gossip over several pages more, but this is enough for the present. I will only add, that cherry-trees suffered much here during the two winters last past. Last winter the mercury was down to 10° or 12° below zero for many days, with a high wind blowing. A very small crop of fruit set, generally, and the trees for a long time looked ragged; for a long time the fruit did not promise to obtain more than half size, but the weather was favorable in June, and most varieties came fully up to the usual standard. Knight's Early Black I think finer than I ever saw it, though a week later.

VISITS TO COUNTRY PLACES, No. 3.

ABOUT NEW YORK. THE NORTH RIVER.

As one must leave the concert and the ball to see the charm of domestic life and society, and to view the hallowing influence of woman's devotion at the bedside of the sick and the dying, so we must desert the highways of travel to enjoy, or even to know of the many delightful retreats, the ornate mansions and grounds, which have grown up during our late periods of prosperity in most parts of the Union, where as much of the paradise with which man began his career is re-established as his fallen nature will permit. It has been our good fortune to revisit many such favored spots of late, and to discover new beauties and additions created by the hand of taste.

Wodeneth, the seat of Henry Winthrop Sargent, Esq., near Fishkill Landing, Dutchess County, N. Y., was our *point d'appui* for the region of the North River. The railroad which scours the borders of this American Rhine affords opportunity for excursions, above and below, of such facility that you make engagements for a dinner party sixty miles off, if you choose, even months beforehand, with as much certainty of meeting at the hour named as we formerly felt in crossing a street. Mr. Sargent is perfectly at home in all this region, and we found his arrangements for the enjoyment of our little horticultural party perfect; every day brought its new and delightful scenes, we must say, unrivalled for beauty, ready prepared for the enjoyment of elegant leisure.

Wodeneth is Mr. Sargent's own creation. Prepared by foreign travel and residence in the finest parts of Europe, and with a native taste for rural life, Mr. Sargent procured a spot of extraordinary beauty, nearly opposite to Newburgh, and began his operations of building and planting about the same period, or a

year or so later, with Downing; their friendship was such as poets sing, and dramatists attempt to portray. Mr. Downing's leisure moments were never more thoroughly enjoyed than when pacing with his host around the new grounds, suggesting an effect here, an opening vista through yonder lofty grove, or advising about the hothouses and graperies, their contents and government. These scenes we well remember; their recollection is a bright spot in the wastes of life.

When *Wodenethe* was purchased in 1841, the ground, as its name indicates, was finely wooded.* White oaks threw their giant arms about, and the wild blackberry was the only edible fruit. Mr. Sargent has made it "a wilderness of beauty;" it blossoms with the rose; the foreign evergreens dispute their sway with the old forest, which has been very gradually yielding its inferior specimens to more ornate native or foreign foliage. Mr. Sargent is, by general consent, our "tree-taster," as Mr. Reeves, of *spiræa* memory, was tea-taster to the East India Company, with the difference that Mr. Sargent administers only to our mental enjoyment. His evergreens are specimen trees, collected at great cost and labor from every region; this was attended, of course, with a thousand failures, but these are not now apparent; all that you see is in perfection. Those portions not hardy have disappeared, and are replaced by more constant friends. The place is a model of landscape gardening; shrubs and trees appear just where they are wanted; the lawn is a carpet of exquisitely kept verdure, mowed every week or ten days with Shank's lawn-mower, an improvement on the English machine, made by Mr. Sargent's neighbor, H. N. Swift, an ingenious mechanic, whose inventive talents have introduced him to a large business in this manufacture. We have seen many of his machines in use in various places, and are free to say that we saw but one lawn, that under the care of Mr. Chorlton, on Staten Island, that was perfect without Mr. Swift's invention. The machines are of three sizes; that for one horse cuts a width of thirty inches; the pony size twenty-four inches; that drawn by two men sixteen inches; and one which a single man draws, and which is used to cut narrow borders, verges, and among and around shrubbery and clumps, has a width of thirteen inches. It cuts, picks up the grass in a box, and rolls the surface at the same operation, and saves an incredible amount of labor. At *Wodenethe*, the entire lawn, between two and three acres, is cut, gathered up, and rolled in one day, between seven in the morning and sundown; cut, too, in a way that no mower could cut and gather, and which could not be done unless swept, as in England; since, the lawn being cut once a week, the grass rarely is over half an inch to one inch long, and, of course, could not be lifted up by the ordinary lawn-rake. The largest size (horse) machine is used here, with one boy to ride the horse, another to guide the machine. This same lawn formerly occupied two men *nine* days, not mowing between ten and four.

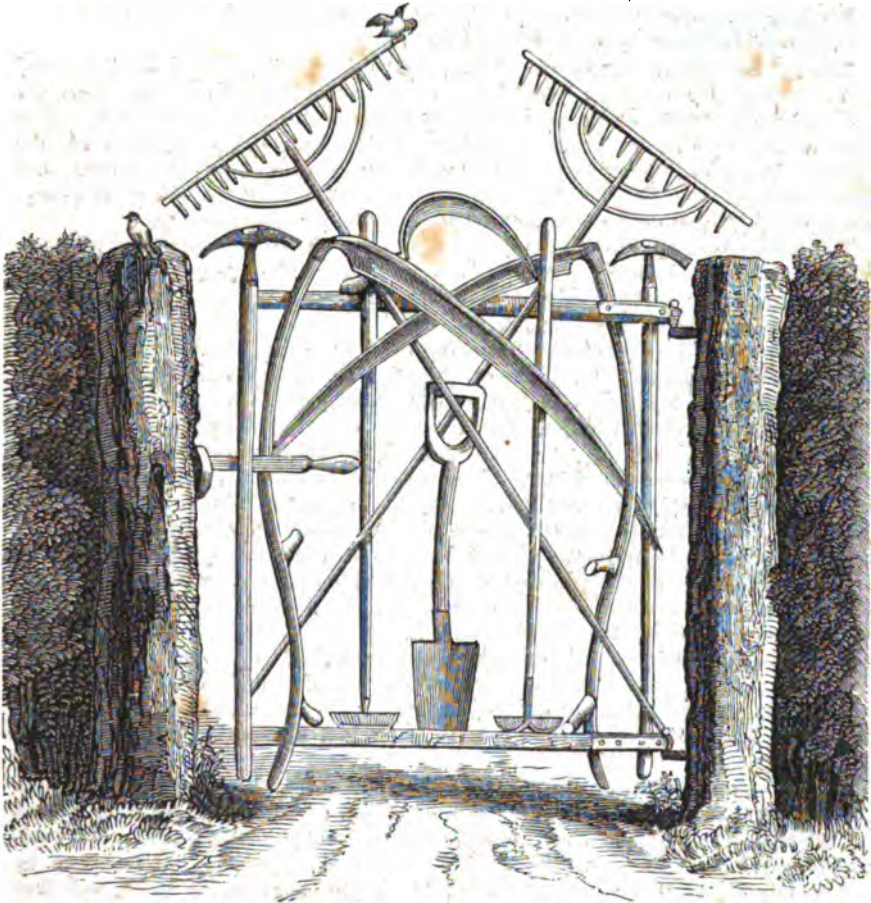
At *Wodenethe*, you encounter beautiful specimen trees at every turn. Among the deciduous kind that struck us most for their novelty and beauty were the cut-leaved and fern-leaved beeches, the former six feet and the latter ten feet in height. These truly ornamental trees should be placed in every plantation, as also the cut-leaved horse-chestnut, cut-leaved ash, and cut-leaved linden, all of which at *Wodenethe*, being planted near each other, form a curious and interesting group.

Mr. Sargent has also produced another pleasing effect by grouping the weeping beech, weeping ash, weeping birch, weeping mountain-ash, weeping cherry, the weeping sophora, the weeping linden, and the weeping larch, the latter a very fine specimen, twelve or fourteen feet high, and a new beautiful weeping thorn.

As an evidence of the taste which governs the minutest improvement here, we

* *Wodenethe* being composed of two Saxon words—*woden*, *ethe*, woody promontory.

insert a picturesque gate, from a design by Mr. Sargent's father, an amateur painter of great merit, whose beautiful productions adorn the walls of *Wodenethe* mansion, together with many rare specimens and statuary from European masters.



Ornamental Garden Gate at Wodenethe, the residence of H. W. Sargent, Esq.

A curious effect is produced by the mingling of variegated and particolored trees, such as the variegated or silver-striped chestnut, the silver and variegated elm, the silver variegated thorn, the golden-blotched maple, and a very curious ash, the *aucuba folia*, with leaves as marked as the Japan gold-dust tree. These, mixed with the purple beech, the copper beech, the purple elm, purple berberis, and purple filbert, the darker colors presenting themselves first, and gradually blending off into the brightest, produce a very curious effect. The evergreens predominate, and make both the winter and the summer scene delightful.

The *Pinus excelsa*, or the Bhotan pine, has attained here the height of twelve feet, and fully justifies Mr. Downing's description, "that affectedly pretty" pine.

Pinus ponderosa, twelve feet, though only six years from the seed. This is a

very striking and rampant grower, though too loose in its habit to be very handsome.

Picea pinsapo, six feet.

Picea cephalonica, eight, and very handsome.

Nordmaniana, from the Crimea, three feet, and the finest of the piceas.

Cedars of Lebanon, eight to fifteen feet.

Among the curious evergreens, *Thuja filiformis* (weeping arbor vitæ), six feet high, weeping juniper, both beautiful, a very handsome golden-striped yew, six feet, a golden-striped cedar, a novelty in England, where it originated, and a silver-striped Balsam fir; but the two finest of Mr. Sargent's evergreens are the *Torreya Taxifolia*, the original tree sent to Mr. Downing by Dr. Torrey, and from which all the English *Torreya*s are descended, and the *Abies Morinda*, twenty-five feet high, and perhaps the finest specimen in this country.

The gardens are models of neatness and success. There are 2000 feet of espaliers for trained fruit-trees; peach houses, graperies, and forcing houses all in the neatest order. Two thousand pounds of grapes were raised here in one season, the average crop being 1000 pounds.*

We were amused by the mode of opening the lodge-gate, which is accomplished in the following manner: The lodge is set upon a Ha-ha or terraced wall adjoining the gate; *through* this wall a chain passes from the gate to the living room, and there secured to a small windlass, which, on the arrival of a carriage, is instantly wound up, thus opening the gate at any hour of the day or night without exposing the lodge-keeper even to sight; when open, it is held so until the carriage passes, when it shuts of its own weight, being hung out of plumb.

In short, *Wodeneth* is a cabinet picture; in landscape effects perfect. Though the place is not large, advantage is taken of its situation to *appropriate* the surrounding scenery. Newburgh, on the opposite side of the river, lies at your feet through an opening of the new Italian *balcone*; the river, with its moving panorama of steam-vessels, &c., through others, and all the effects of a large and magnificent park are obtained through superb vistas. Every luxury, a fine library of new and old books, a family of education to enjoy it, botanical riches, and never-ceasing amusements, which "books, friends, a garden, and perhaps his pen" afford, the hospitable owner never lacks congenial occupation, and, of course, happiness.

Depend upon it, there is no success can attend those who sit down in idleness to *enjoy their money*. Man is never happy without a pursuit, and when his means will allow it, he should seek an intellectual one; such is horticulture and arboriculture. When we find a gentleman well read on these subjects, we feel sure he is in a state of progress, that his time never hangs heavy on his hands, and that he has something to show for his intelligence. We are free to confess that we deem this class to be the happiest Americans we know:—

"All, wherever in the scale,
Have—be they high or low, or rich or poor,
Inherit they a sheep-hook or a sceptre—
Much to be grateful for; but most has he
Born in that middle sphere, that temperate zone,
Where knowledge lights his lamp."

* There are several interesting points about Mr. Sargent's management of his grounds and graperies. In excavating for the house, the earth was made into an irregular mound; on this a rustic summer-house of great beauty has been erected, and the whole is over-run with *Bignonias*, *Wistarias*, *Cobeeas*, &c., &c. In the grapery, where the border extends inside, mushrooms are successfully grown; they are picked every morning through the slats used for walking on, thus forming a successful and economical "mushroomery."

A thorough inspection of the best country life in America will convince the unprejudiced that we have among us a class of thoroughbred gentlemen, who reside on their acres from the enjoyment they derive from it. They are not drinkers, as of old, for want of occupation, nor gamblers to get rid of their time, but intellectual, literary, or scientific. They enjoy society when they are in it because their reading qualifies them for it, but they are at no loss when their places and their books are alone accessible. Such a class is already among us, formed of individualized men, with rational pursuits and healthy frames, ready to do good service at home, and when abroad creditable specimens of high-minded Americans. They have something better to do than the European mere gentleman, whose chief boast is that he is a sportsman, for they find more useful and congenial occupation in superintending their gardens, and farms, and their cattle; their planting is a never-failing resource; fruit in and out of season you are sure to find in plenty; they are as familiar with Loudon and Downing as the shopkeeper with his Ledger or Herald, with this advantage, that while thoroughly posted on foreign and home politics, they understand something besides; they are familiar with the physiology of botany, and can tell you the composition of their soils. Who, of our readers at least, would hesitate which class to prefer?

We could stop to descant more largely on *Wodenethe*, but other places have claims to our attention; we leave it with regret, and yet with satisfaction at the thought of America's rearing more specimens like it, and educated men to usefully employ the time that is given them.

Mr. Sargent's appropriation of scenery is completed by his having a good neighbor in *Charles M. Wolcott, Esq.*, whose place, *Roseneathe*, adjoins, and is only separated by ornamental plantations and iron fences; these are so contrived as to appear to give the surrounding grounds to both parties, which, in fact, they do, for the walks lead through gates always unlocked, and each family is free to the possessions of the other. Mr. Wolcott has also adorned his beautiful spot with rare and fine trees, masses of evergreen shrubs, his *Rhododendrons*, *Azaleas*, and *Mahonias*, &c. &c., being perhaps as successful as any we have seen in this country, and his lawns, with their beautiful views of river and mountain scenery, are kept in excellent condition. His graperies, greenhouses, and gardens are on an extensive scale, and the whole, including the house and grounds, is supplied with water by a steam-engine of simple construction placed in a building attached to the propagating house, and which at the same time heats his greenhouse, and forces water to his reservoir. We know of no two adjoining places in better keeping than these, and could wish that some spots we wot of in various parts of the country could and *would* take example here, and "pattern accordingly." Repose and leisure are turned to good account; life is added to amazingly by such elegance and neatness. The "happy valley" seemed to us no longer a dream for those who, unlike the artist, would be contented not to add waxen wings to their earthly bodies, and seek impracticable and useless flights. In the comparatively small space of, we believe, only sixteen acres, Mr. Wolcott comprises every attribute of a country place, several lawns, each one a distinct feature from the other, an English flower garden, a most successful vegetable garden, greenhouse, graperies, a forcing-house, the most charming views, and no apparent boundary but the river and mountains.

THE SO-CALLED "BLEEDING OF TREES."

CONSIDERED AS A MEANS OF INDUCING THEIR EARLIER PRODUCTION OF FRUIT.

BY HERR VON WINTERFELD.

THIS bleeding of trees consists in the division of the bark parallel to the longitudinal fibres of the stem, and downwards throughout its entire length. This operation is to be undertaken in the spring, or in the commencement of summer. The bark at the tree is to be divided, with a sharp knife, entirely through, down to the young wood, taking care, however, not to wound this latter; and these slits are to be made parallel to each other, and at greater or less intervals around the entire circumference of the trunk, extending downwards to the surface of the ground. By this means the growth of the wood is much encouraged, from the fact that the external bark of trees being dead, the growth of parts is restrained, and the growth of wood and consequent increase of the stem arrested till nature shall have overcome the hindrance offered by the external layer of bark, bursting it, as may be seen in all old fruit trees.

The following are the observations of the above-mentioned Herr Von W. :—

1. "Bleeding" is an effectual method to induce bearing within from two to three years on the part of trees which, from their age or nature, should have already borne, but have been prevented, either from excess or deficiency of growth.

2. The ordinary bearing time of trees is hastened by this method; that is, the time required ordinarily for the ripening of the fruit is shortened. In this, care must be taken not to expect impossibilities.

3. Those trees having little sap and a hard bark, must have these slits made close together, as near as one to every half inch of the circumference; those of a contrary description requiring only about four incisions for their entire circumference.

4. The most favorable time for this operation is in the early spring, as soon as the leaves have unfolded, and from this time until summer. It may be performed, however, even in the latter end of fall, when the leaves are beginning to drop off. It is better that this should not be done from the middle of June to the middle of July, in order to avoid the injury that may be inflicted by insects, that seek to deposit their eggs in the fresh wound.

5. The incision must completely divide the bark without injuring the wood, although a slight deviation from this rule will not do much injury in either case.

6. Trees already in bearing are rendered, by this operation, more fruitful.

7. Stone-fruited trees are not injured by this operation, as no effusion of gum follows.—Translated from the *Gartenflora Monatschrift*, Von E. Regle, Erlangen, Feb. 1856.

A FEW REMARKS ON THE CULTURE OF MIGNONETTE IN BOXES.

BY M. L.

MIGNONETTE is of the most simple and easy culture, but we seldom see it so managed as to look long, neat, and elegant; while, although it is but a simple flower, it is really kept elegant for a length of time when treated in the following manner :—

First with respect to box or window culture : I get some good compost, such

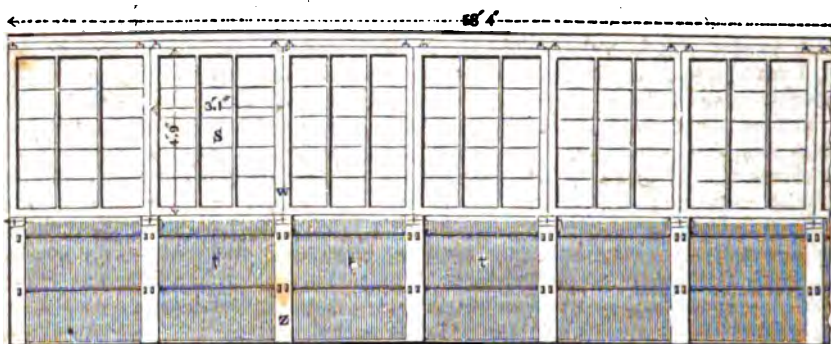
as is usually prepared for vines; or a mixture of good cucumber and melon mould, or rich garden soil, is quite sufficient for the purpose. Instead of sowing the seed, I transplant in the boxes, either from the clumps or border, or from plants previously raised for that purpose, forming only one row along the middle of the box, at four to six inches apart from plant to plant, and pinching off the tops of each as soon as I plant them. If I plant large specimens, which I frequently do very successfully, I pinch all the shoots back to the first joint of each; and as they push fresh shoots, I continue to pinch them all back to the first joint of each shoot, till the box becomes nearly full, or till I think I shall soon require them to be in bloom, when I stop them no longer, and allow them to shoot out for flowering. Still, I occasionally pinch them in so as to keep them in a judicious trim; and frequently thin out many branches, that they may not become too crowded, so as to weaken the plants, or endanger the stems by damping off. By the above treatment I have had Mignonette, that has been planted early in the spring, kept in fine and vigorous bloom, at the outside of windows, till the end of January.

This season, I sowed a good deal of this little favorite round the beds and borders, but owing to our cold, wet, clay soil, and the unfavorable season, in many parts it either never came up, or so weak that it dwindled off afterwards; but on some parts of the higher and drier grounds it came up tolerably well, which has given me plenty to transplant at this more favorable season into the less congenial soils, where it had gone off; and by my box treatment it is now promising to do well. Until it gets a proper vigor, I keep picking out the blossom-buds as soon as I can detect them, or pinch back the shoots, to make them strong, bushy plants. Those I leave after thinning I treat just in the same manner as the transplanted ones; so that one single plant only left becomes a much finer specimen than by leaving more. The usual manner of leaving it to ramble where it chooses, and all the plants which spring up from seed, is always disagreeable to the sight; and it soon exhausts itself by rambling seeds and blossom. Some plants are trained to a single stem, and tied to a stake; and these may be either trained to form into a bushy head at any convenient height, or spurred into the first joint, so as to have them in blossom the whole height of the stem, as far as it may be desired, in which state it is really a very pretty object.

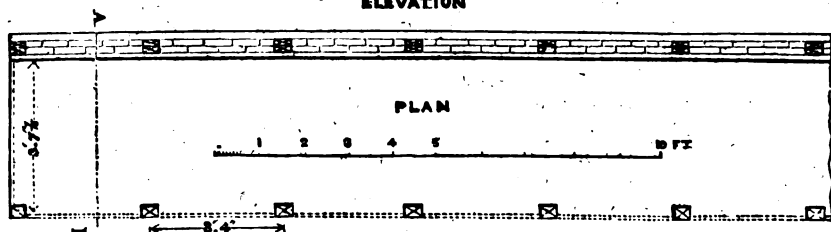
CHEAP GLASS STRUCTURES, AND GRAPES.

THERE are thousands in our extended country who are deterred from using much glass on their grounds, through fear of the cost. They can enjoy strawberries in February, figs in March, grapes in April, or peaches, apricots, and plums, in May or June; they would not even care to give double or treble the ordinary price for them at these seasons, but, at the rate of near a dollar a monthful, republican purses very properly contract. But these luxuries are often more within our means than we imagine. They can be produced in properly constructed cheap houses as well as in properly constructed dear ones; and we truly believe that, when our Yankee genius has been properly applied to the matter, we may have the best of hothouse grapes, in profusion, in May and June, coining a fortune for the grower, if he is in want of one, at 50 to 75 cents per pound.

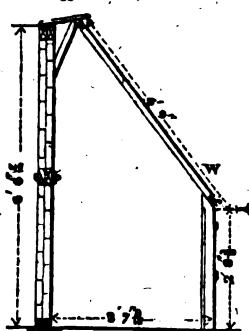
We present herewith a plan of a cheap structure, which has been successfully employed, in Germany, for cultivating peaches, apricots, and grapes, as described in the *London Gardener's Chronicle*. It may not be exactly suited to our wants, but it will need very little modification. It may be remarked, that it is adapted only to cases where the fruit-trees are growing against a wall or fence:—



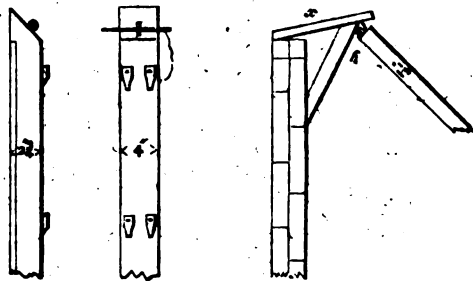
ELEVATION



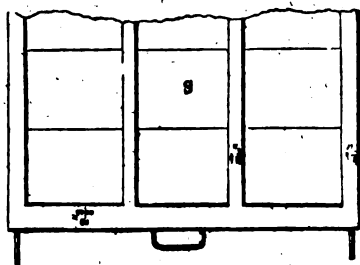
PLAN



SECTION ON A-B:



SCALE FOR DETAILS



Explanation of the Figures.—The frame shown in the drawing, was placed against a wall of a new construction, and which has existed for more than twenty-five years. The wall is formed of a framework of oak, forming squares, in which are set on edge two courses thick of blue paving tiles, nine inches square, so as

to break joint. This wall is six and a half feet high, and is covered by a board, *z*, which serves for a coping, and is supported, from sash to sash, by pieces of wood, *y*. In the coping boards are fixed hooks which hook into two eyes on each sash. The sashes rest upon oak posts, *z*, fixed in the ground to the depth of three feet three inches. Each post supports the ends of two sashes, which rest partly on the one and partly on the other, as at *w*. The sashes, *S*, are made of pine, and are framed and glazed in the ordinary way. The intervals between the posts are closed up, in severe frosts, by straw mats, *t, t, t*, which can be removed at pleasure. They are kept from blowing in or out by being tied to laths nailed to the posts.

This is so easily moved, that the whole of it, though fifty-eight feet four inches in length, can be removed by two men in eight minutes, and again replaced in twelve minutes. When the movable part of the structure has been taken down, there only remain the posts, the use of which no one would suspect. Besides effecting its principal object—the protection of fruit-trees, such as the peach, apricot, and vine, &c.—the structure serves, at the same time, for the production of early vegetable crops, for which purpose a border three and a half feet wide is available.

The expense of the entire structure was, at Brussels, 7*l.* 0*s.* 9*d.*, or about 2*s.* 5*d.* (or, say sixty cents) per foot run. It is composed of the following items:—

	£.	s.	d.
Carpenter's wages	1	2	11
Cost of wood (oak and pine)	2	1	5
Smith's work	0	9	5
Oil, white lead, and putty	0	13	7
Straw	0	2	4
Glass	2	5	6
Gratuity to the gardener	0	5	7
The glazing, painting, and making the straw mats, having been done by the gardener at spare times in winter, are not taken into account.			
Total expense	£7	0	9*

—Charles Van der Straeten.

The straw mats might be decidedly objectionable in a cold climate; but they may readily be replaced with glazed sashes.

Here we were about to be content in having offered a plan of constructing a grape or orchard house for sixty cents a running foot! when another *Gardeners' Chronicle* brought us the confirming fact, to strengthen an old crotchet of our own, that there is no need of expensive houses to produce premium fruit. The *Chronicle* says:—

"Wonders will never cease. All the great grape growers were beaten the other day by an interloper. Seldom have practical men received a more heavy fall. Great rules were violated; the wisdom of our forefathers was thrust aside like a piece of useless lumber; and maxims sanctioned by age, wisdom, and the most resolute routine, disappeared like sparkles of Captain Boxer's fireworks. About a hundred exhibitors of grapes grown in vineries in all parts of the country, produced the evidence of their skill at the last exhibition in the Regent's Park, and, melancholy to relate, were beaten by fruit from a glass shed in a London nursery garden. It is incredible, though true. The large silver gilt medal, the highest offered for grapes, was awarded to Mr. ——— Glendinning, of the Chiswick Nursery—for three dishes of grapes. Our pen shrinks from recording the event.

"The business of a nurseryman is to grow vines for sale, not grapes for exhi-

* In our money, about \$35.

bition. If he grows grapes at all, it is only for the purpose of ascertaining that the vines from which he propagates are correctly named. With this end in view, the fortunate winner in the instance before us built a glass shed, or lean-to, with a border and walk at the back, and a tan-pit in front, hot water being added for the necessary heat. This back border is two feet wide; the walk, paved with flat tiles, is two feet more, and beyond this nothing is provided for the vines to grow in. As to the composition of the border, it appeared to us to consist of little more than the common garden soil of the nursery ground, and we understand that it is nothing else. Along this back border are planted the following vines, in the order in which they follow, and about four feet apart: 1. Black Hamburgh. 2. Muscat of Alexandria. 3. Grizzly Frontignan. 4. White Frontignan. 5. Black Prince. 6. Cannon Hall Muscat. 7. White Tokay. 8. Charlesworth Tokay. 9. Barnes' Muscat. 10. Mill Hill Hamburgh. 11. Reeve's Muscadine. 12. Black Frontignan. 13. Welbeck's Tripoli. 14. A sort undetermined. 15. Black Barbarossa. 16. Royal Muscadine. This, we should say, is as pleasant a party of vines, with different constitutions, as could be readily assembled.

"They were planted in the narrow back border just described, in June, 1854. A single rod of each was led up the back wall and down the rafters; and laterals from these rods bore beneath the glass the fruit in question. Fires were, we understand, commenced last March.

"We do not pretend to explain the history of the success of the glass shed. Excellent bunches were still hanging from its roof when we inspected it, and we have no doubt that the prize fruit was justly placed at the head of all others. Nor do we care to know why nothing better should have appeared in rivalry. Great parties, past, present, or anticipated, may have caused it. What we value the fact for is, that it should teach the amateur the possibility of also growing in his own small lean-to, grapes fit to take their place by the side of the first in the country. The case is parallel to that of the strawberries lately mentioned."

That will do for the present; we shall see, ere long, who of our countrymen will win the prize of a fortune by growing grapes in cheap structures. It can and will be done.

NOTES ON THE GOOSEBERRY.

BY WM. TOMPKINS, GERMANTOWN, N. Y.

THIS fruit is grown in this vicinity to considerable extent for the New York market, and I believe almost any quantity might be grown, if cultivators would pay more attention to the selection of soil, pruning, and, in fact I know of certain plantations that happen to have a favorable soil, that have produced heavy crops for several years without pruning, manuring, or scarcely any other care.

In 1845 I got a dozen plants of this fruit from a friend, and planted in my garden, which has a heavy soil. These plants were well cared for, and have annually produced large crops, without showing the least signs of mildew or decay from age. They were annually pruned, with a heavy hand, more with a view to get cuttings than to prevent the mildew.

All suckers were taken off every spring, by tearing or separating with a knife from the parent plant, in such a manner, if possible, as to detach some roots, and then carefully planted in the nursery, where, in two years they make good, strong plants. In fact, I would rather set cuttings, with all their buds, than not, for the reason that they add very much to the possibility of propagating, as the

gooseberry does not strike roots very freely from cuttings. After plants are put out where they are to remain, and the suckers taken off, as I before stated, for two or three years, they generally give in and quietly submit to the treatment—nature making no further efforts of the sort. I have old plants that have been treated in this way for a number of years, that are perfect specimens of beauty and fruitfulness, measuring three inches in diameter, and showing as much vigor as when three or four years old. In setting out large plantations of this fruit, a heavy soil, well under-drained, thoroughly manured, and deeply ploughed, should be selected, if possible. They should be planted in rows four feet apart, and three feet distant in the rows, and the ground kept in good order by the frequent use of the cultivator and hoe.

It has been frequently asserted that the gooseberry never mildews in England. From this general opinion I must beg leave to dissent, as I happen to know some facts to the contrary. In February, 1853, the writer was in England, and purchased, of a large establishment in the vicinity of Liverpool, several hundred plants. It was observed that many of them presented a singular appearance, being very much drawn and distorted, and evidently showing disease. Suspecting it was caused by mildew, the proprietor, Mr. Scirving, was asked the reason, when he frankly admitted that such was the case, remarking that the disease was much more prevalent in the vicinity of the sea-shore than further in the interior of the country, and suggested the necessity of hard pruning, and the best of cultivation, to counteract the disease. These plants were taken up and packed in moss, in a large box, and shipped on the 15th of the above-mentioned month, and reached their destination on the 15th of March following, being about one month on the passage. On opening the box, it was found that the buds were all started, and many of them in leaf. The spring being late, with much frost in the ground, we were unable to plant them till near the 1st of May; the plants, in the meantime, were securely stored in a cellar. A piece of warm, loamy soil was selected, and prepared by deep and frequent ploughing, and also well manured. The plants were then set in rows to admit the horse and cultivator. The ground was also occupied as an apple orchard, trees thirty feet apart, about twelve years planted. The gooseberries, however, were not planted within six feet of the trees. On setting the plants, they had every appearance of being in fine order, notwithstanding their long confinement, the roots and buds appearing as good as the day they were taken up. After planting, they had the best of care bestowed on them; the ground was frequently worked with the cultivator, and every weed carefully destroyed. They started finely, and gave promise of making a good growth, till about the middle of August, when it was observed that they had the appearance of having been dusted over with ashes, the extreme ends of the young shoots showing the most of it. They ceased growing, about this time, entirely; and, by the 1st of September, the foliage was all off. Thinking the reason of their doing so badly the first year, might possibly be owing to their being planted so late, and not being pruned, we determined to try different management the next year. Early in April, 1854, we gave them a moderate pruning, manured each one with a shovel full of well rotted manure, and worked the ground as soon as it was in order. This year was uncommonly dry, and we did expect that the dry weather would have a tendency to counteract the mildew; but it did not. They grew finely, setting considerable fruit till about midsummer, when they were suddenly arrested in their growth by their old enemy, the mildew; and, by the middle of September, they lost all their foliage. We now became satisfied that it would be necessary to remove them to a soil of a different texture, taking the hint from the fact of our old gooseberries in the garden doing so well in a heavy soil, we con-

cluded to give them a clay soil. We selected a piece of wet meadow land, through which flowed a small stream of water; the soil was about six inches muck, with a stiff clay subsoil. This land was thoroughly under-drained by running a drain four feet deep through the bed of the stream (it being dried up by the extreme dry weather of that year); the main drain was intersected at right angles, every two rods, by cross drains three feet deep; these drains were then pretty well filled with stones, and closed in the usual manner; the plat was then thoroughly ploughed and subsoiled, and manured with well rotted stable manure. No crop was taken of this year.

About the middle of April, 1855, the imported plants were carefully taken up, severely pruned, and planted in the plat prepared for their reception, in rows to admit the cultivator. The summer of 1855, we all know, was uncommonly wet, over a large portion of the Union; but the frequent heavy rains did not interfere with our working the gooseberry plantation; they started finely, setting quite a great deal of fruit, which they matured in the best manner; they also made strong and vigorous shoots, which continued to grow and retain their foliage till late in the season. On the whole, we have more than realized our most sanguine expectations with the imported plants, they having been mildewed before we got them, and having suffered from it two years subsequently, must undoubtedly have enfeebled and debilitated them very much.

We believe that there is not a township in the State of New York but has land adapted to the growth of the gooseberry, if a judicious selection of soil be made, the land properly prepared, and the plants pruned in a systematic manner. These things must be attended to if the planter wishes or expects to have long-lived and productive plantations; and a few dollars expended in preparing the soil in a suitable manner will never be regretted in after years, as the writer has abundant evidence of. I have watched the inroads of the mildew in gooseberry plantations attentively for a number of years; it seems to be very much like the mildew that is so troublesome in some places to the grape grower, and I believe it to be the same. New plantations of this fruit generally produce well the first few years (providing the plants are strong and vigorous when set) without pruning or much care, that is if the soil be suitable. But the enemy will, in a few years, show itself, at first slightly attacking the weaker ones, doing but little harm the first year; but, once established in plantations that are neglected, it will increase with fearful rapidity, and in two or three years ruin the most of the plants; in fact, every attack weakens and reduces their vigor, until they are fully ruined and worthless. This is the way that this scourge appears, and extends itself in neglected gardens and places that are not properly cared for, blighting and destroying both fruit and plants, as well as the hopes of the grower. But the intelligent and industrious cultivator always is rewarded for his labor by good crops of fine and handsome fruit, that always commands a ready sale in the market, at a remunerating price.

I will here state a case that came under my observation: A neighbor procured a lot of good, strong cuttings, and set them in his garden; gave them the best of care; in two years he was rewarded with about one hundred good, strong plants, which were planted in a plat of warm, loamy soil, that had been previously well prepared for their reception; there were also a few large apple trees standing in the plat, which shaded the ground some, but from their position not badly. The first season they grew finely, and gave some fruit; the second year they received the same treatment, and produced some fine fruit, with which the owner was much gratified and encouraged; also some well developed specimens of mildew on the weakest plants. The third year they set a heavy crop of fruit, and also exhibited considerable mildew (those plants that were affected the year previous being

injured the most), not enough, however, to materially injure the sale of the crop. The reader will perceive that these plants always had the best of care; they grew strongly, forming thick, bushy heads, densely crowded with superfluous wood and foliage, but never were pruned. At this time I suggested to neighbor B. the necessity of giving his plants a thorough pruning early the next spring, at the same time predicting that if he did not, the next crop would be a total failure. He remarked that he knew of certain old plants that never were pruned, and annually produced good fruit, and said, if he pruned according to my directions, he would materially lessen the amount of his next crop, and apparently put but little faith in the virtue of pruning to prevent the mildew. Last spring (1855) they were marured, and the ground worked as soon as it was in order; the foliage and blossoms came out handsomely, and they set a prodigious quantity of fruit, which, when about half grown, was attacked by the mildew, and in a few days this fine looking crop, which promised at first so well, was wholly ruined, the berries being thickly coated with an ash or brownish looking substance, which immediately stopped their growth. They also lost their leaves about this time, and their naked branches, densely loaded with miserable looking fruit, presented the most melancholy sight that I ever beheld in gooseberry culture. Friend B. is now down on gooseberry culture generally, and would not plant any more if he could get them for nothing; but I am inclined to think that the fault is more his than that of the gooseberries.

SPORTS BECOMING PERMANENT.

THE preservation and improvement of the races of domesticated plants is a most interesting topic. Grafts carry the diseases of the parent with them; again divided, the disease is again propagated, and this will go on. So from sports, the means employed to preserve these peculiarities of habit may be, and often are, a most important matter, and from these, still more valuable qualities may make their appearance.

Fig. 1.



Monstrous Canterbury Bell.

Sudden alterations in the quality of seedling plants often occur from no apparent cause, just as those accidental changes, called "sports," in the color or form of the leaves, flowers, or fruit, of one single branch of a tree, occasionally break out, we know not why. Of these things physiology can give no account; but it is certain, say Lindley and others, that when such sports appear, they indicate a violent constitutional change in the action of the limb thus affected, which change may sometimes be perpetuated by seed, and always by propagation of the limb itself where propagation is practicable. A sport is a sudden change of one thing into another, different in some striking respect, as when a peach tree produces a smooth fruit (a nectarine) among its downy brood. When some *Celosea* suddenly formed its flowers upon a thickened, flattened stalk, and they became more crowded than usual, we had a cockscomb, which is a "sport." It has a tendency to increase under skilful management, as was shown by Andrew Knight, when he, by a single

effort, brought a cockscomb plant to measure eighteen inches across, and only seven inches high.

An analogous change is represented in Fig. 1, which is not uncommon in the Canterbury Bell, whose flowering stem becomes fasciated, and the flowers run together into a magnificent crescent-shaped head. Gardeners have not yet attempted to fix this striking character, and yet it might, perhaps, be secured as is the cockscomb.

A Mr. Salter, of London, observed among his seedling Dahlias one which produced a number of green, scaly flower-heads, but no perfect flowers. This was propagated, and every plant was covered with similar heads of scales. All the plants were vigorous, but there was not a single perfect flower-head upon any of them, so that the sport became immediately fixed. Wheat has been produced from the wild grass (*Aegilops ovata*), by watching its increasing tendency to sport, till it was not excelled in quality on the neighboring farms. M. Esprit Fabre was the patient experimenter. Thus came our varied *Chrysanthemums*, &c. &c.

Fig. 2.



Monstrous Dahlia.

CRITIQUE ON AUGUST HORTICULTURIST.

Pear Culture, No. 4.—Dr. Ward, in the sensible, practical articles he has written on this fruit, has laid every pear grower in the country under lasting obligation; and could they have been written six or eight years ago, when the dwarf-pear appetite of the country first began to crave the pabulum so temptingly offered to its taste, thousands on thousands of dollars, and a world of vexation and disappointment, would have been saved to those who, unwittingly to themselves, have been victimized by their attempts to cultivate them. But, American like, we have all "pitched in" to dwarf pear culture together, without knowing anything about the philosophy of the thing, and taken the *ipse dixit* of enthusiasts and theorists, who, perhaps as unwittingly as to the results as ourselves, have propagated them to an enormous extent, and recommended them for cultivation.

That *some* varieties of the pear can, in *some* cases, be successfully cultivated on the quince, there can be no doubt. They have been so cultivated in Europe for centuries. They have been occasionally cultivated in this country for some years prior to the late pear *furor*—perhaps twenty, thirty, fifty, or even more. To understand the subject, let us examine the pear, of itself, on its own stock, as a fruit. In its finer varieties it is a rare fruit, of exquisite excellence in flavor, and flourishes, permanently, only in favorable localities, and in peculiar soils. In America it is a capricious fruit, yielding well only in certain latitudes at all, and then only on favorable positions and soils. It grows, to be sure, in many places; but in how many places does it *flourish*—that is, grow well, bear *good* fruit, and live long, as a general thing, like the apple? There are the remains of old pear orchards in different parts of the United States—a hundred and fifty years old, perhaps; but they are only the remains—a few surviving veterans out of the many that were planted with them. The mass of the orchards died out a great many years ago. These, with many others planted since—old trees they are, too—still live, and bear great, almost annual crops, and, in many cases, of excellent *named* fruit. They are, however, the exception, not the rule. In many instances, too, they have grown and flourished through neglect as well as with good culture, showing not only wonderful vigor and vitality in the individual trees, but a peculiarly favorable quality in the soil in which they have stood. Many localities of the kind might be named; but as my intelligent readers will each recognize them for himself, they need not be here noted. It is sufficient to say, that after an experience of near two hundred years in America, with annual planting and constant pains-taking, *choice* pears are scarce in market, and dear in price as well as rare in private gardens and orchards, even where extraordinary pains have been taken to cultivate them. These facts are patent to every man who has any experience in the subject, and we have had as good opportunities to give the thing a fair trial in this country as elsewhere.

Probably Normandy and Belgium are the best *natural* pear countries in the world. The most of our best foreign varieties originated there, and they have been introduced here with indifferent success, as a whole. Some varieties have proved as good with us, perhaps, as there, but they are few. As a *general* thing they have failed, both on their own stock and the quince. England is no pear country. Scotland is less so. They have pears there, occasionally, but not choice ones. The best of English pears—the Bartlett, perhaps, excepted—are among our rejected varieties as table or even cooking fruits. The upshot of our observation is, therefore, that even on its own stock, the pear is uncertain as an *orchard* fruit, and, with all its contingencies, will not *pay* as an investment.

How, then, is the pear on the quince stock? and what its probabilities for the future? Under the excitement of the last dozen years, in the United States, millions of trees have been propagated, and worked, and sold by the nurserymen. They went into it enthusiastically, and with high assurance that they were doing good service to the public, and that a new era was to be established in pear culture, by which every one possessed of a spare rod of ground could luxuriate on the delicious fruit of his own trees. In pursuance of this idea, every choice variety was propagated, sold, and distributed, over the country. But, in a few years it was ascertained by the nurserymen themselves, that a great majority of these varieties were a dead failure, and, for some time past, the fruit conventions have cut down and particularized only a *certain few* varieties that would succeed on the quince. Rivers, of England, the greatest pear propagator, perhaps, in the world, names only the Louise Bonne of Jersey as sure with him, and Dr. Ward, who is, perhaps, equally good authority in America, adds but a *very few* others that he can trust.

Nor is this general failure in dwarf pears altogether the fault of the climate, the soil, or the cultivation. It goes deeper. The fault is in the *incompatibility of the pear wood and the quince wood to join their individual stocks harmoniously together, to make a long-living, luxuriant tree, and produce good fruit, except in chance and casual cases.* The quince—and no matter what quince—is a compact, small wood, with numerous small pores, of close texture and fibrous roots, working, in restricted compass, in a soil peculiar to itself. It flourishes only in limited districts of but a few of our States, and best on the sea-board and in the interior lake regions of New York. The pear, on the contrary, has an open wood, of great size, with large pores, spreading roots, a gross feeder, and grows, more or less, all over the country north of latitude 40°, and in almost any kindly soil. Now, here are two antagonistic, distinct kinds of wood, of different habits, the one hardy in almost all climates, the other *not* hardy in all the same climates which are sought to be connected as chance or design may govern, with an expectation that they will grow, and flourish, and bear fruit successfully! There can be no greater physiological mistake than in any such expectation as a rule. A large wooded, open pored quince, like the Angers, worked with a close-pored, small-growing pear, of whatever kind, *may* so join their particular woods, as to be occasionally successful in growth and bearing. They have done so; they may continue to do so; but, as a rule, as pears and quinces run, *never*. It is a violence to the nature of both. As an evidence of their distaste for each other, the common apple or orange quince of our country is pronounced a dead failure for the pear, by reason of its smaller size and more compact growth, than the Angers.

The conclusions, then, which we are compelled to draw from all this theory, as well as the experience that we have had, is, that there is no *certainty* in a plantation of the dwarf pears. It may do for *high* garden culture, with particular manures, nice pruning, and at great cost, but, for orchard culture, or general cultivation, it is a failure. See what Dr. Ward says of "pinching," "cutting back," and all that sort of thing. If men, with brains and experience enough to understand the thing, could be hired, for fifty cents a day, to do the work as it ought to be done, and the public, with tastes refined enough to appreciate the fruits, and liberality enough to pay for them, could be found after all the failures and investments of the fruit grower, it might pay; but, under existing circumstances, it cannot. Any fruit, in this country, to pay for production, must not be difficult, either in soil or culture. If so, it must be abandoned—and the *dwarf* pear is one of them.

It may be said that no fruit promises better than the dwarf pear, as we see it

in the nursery. There they stand in long, straight rows, three to six feet high, full, thrifty, luxuriant, and frequently with luscious samples of fruit upon them, enough to tempt the palate of an anchorite. That is true, and very well while they stand *there*, not exceeding three or four years from the bud. But transplant them, no matter where, and cultivate them to your best. A fire-blight strikes one, a cankered bark shows itself on another, a heavy wind thrashes off a score of them from the junction of the two stocks, and a sort of tree consumption takes a dozen more, while a few flourish and bear fruit, perhaps equal to our fullest expectations, till some accident or disease finishes them. That is the way they go; and so they can be seen in every orchard and garden throughout the country. Such is my own experience, and such is the experience of many others, who, like myself, have gone into dwarf pears on quite a large scale as well as in the more limited garden. I have grown the quince, as a fruit, for many years; the pear, also, on their own stocks. My soil is good for both. They have succeeded well as such fruits go, yet I have tried the dwarf pears side by side with the others, under infinitely better cultivation, and, in the main, it has proved a failure. And so with my neighbors. I went into a garden, the other day, filled with nice fruits. Its owner is a man of care; attends to things himself, and understands them. He had, perhaps, fifty dwarf pears, of a dozen varieties, standing around, all well trained and cultivated. A few flourished and bore fruit; some had never grown a foot during the several years they stood there; while others were dead, and dying; and that is but a sample of all around me. I fully believe, if the testimony of our dwarf pear experimenters at large could be taken, such would be the result of their experience.

It is with exceeding regret, and after much pecuniary sacrifice, that I come to these conclusions. I wish to injure no one's business, nor to diminish any one's hopes; but after years of painstaking and solicitude, I chronicle these remarks as the deliberate convictions of my own observation and trials. I would not discourage any one, who has a good soil for them, from cultivating a few choice dwarf pears, when the kinds are such as have been successfully tried; but they should be confined to *the garden alone*; and then, at a large price for his fruit, provided he pays proper attention to them, he may gratify his own taste, and that of his family and friends, to an occasional treat of a well-grown pear.

Restalrig House, and Mr. R. Morris Smith, Architect.—This gentleman mistakes me, and my meaning, in my random remarks on his houses. Mr. Smith's houses are just as good as any other architect's houses—*of the kind*. And, as I am now taking leave of these pages, for the time, as a contributor, I will, with all kind regards to Mr. Smith and his useful profession, drop a word or two on this style of building—the Italian—for American country houses. And, be it understood, I speak not as an architect, for I am not one, but as a simple looker-on, with admiration of every *real* improvement introduced in anything.

The house architecture of any country should, in the main, conform to its climate, and always to the domestic convenience of the people. It is unnecessary to say that our country architecture, previous to the last twenty years, has, as a rule, been uncouth and inappropriate to its objects. A reform has been introduced; yet, as in most other reforms, absurdities have crept in with it. Gothic, Swiss, Moorish, Norman, Egyptian, even, as well as other preposterous things, have been recommended by our house architects, inappropriate, enormously expensive, for the accommodation they give, and unsatisfactory any way. The Italian, as a style, is the most appropriate for American purposes, provided the steep roof is added, which is an absolute necessity of our rainy, snowy, and frosty climates. The shelter afforded by the overhanging roofs and verandas, render the Italian the

most tasteful and convenient for us; therefore, it is a great improvement, and should be the style for general adoption. I now speak in the common-sense view of the subject, with a due regard to economy in building, and an eye to its selling value whenever the proprietor chooses to part with it—for be it known, that no real property is more fluctuating in its ownership, with us, than "country houses." If a man chooses to indulge his fancy or taste by building an extravagant house, in a novel style, that is another thing; it is his own affair, and I have nothing to say. Such things are the *exception*. But, as architects usually have the planning of houses, and govern their style, expense, and accommodation, it is well to ascertain whether they combine the requirements of convenience and comfort in what they build, with a due economy in expense. As a rule, they do not. To illustrate: A man of comfortable estate, with a moderate family, wants a "cottage." He consults his architect. A plan is presented—fashionable, of course, and as the Gothic, and other absurdities, like Sir Lucius O'Trigger's "damns," have had their day, the Italian style is presented. Instead of a plain, tasty affair, with outer walls, admitting breaks and angles just sufficient to give it relief and effect without violence to the interior arrangement of its rooms, it is full of "hips and haws," jags and buttresses, campaniles and porches; half a dozen different roofs and elevations—a pretentious toy, in fact, *imitating* a palatial residence fit for a family of twenty thousand a year, on a great landed estate. And all this outside pretence, with its almost interminable lines of zigzag wall, is to inclose a contracted accommodation of perhaps three or four rooms, a closet or two, and a back kitchen, with a few contracted chambers overhead, at an expense of "\$5,000 to \$8,000!"

Now, this thing won't last. Sensible people will get tired of it after awhile—particularly when the *repairs* come. "Dormers," "flat cornices," garret cisterns, springing a leak every now and then, and spoiling the ceilings, carpets, and furniture, will give way to sensible contrivances as of old. I would not have a kitchen in the *body* of the house, as Mr. Smith intimates I would; it should be in the rear, its proper place; and the annual plumbers' bills should not amount to the full cost of all other repairs, as they usually do in ordinary dwellings. A "cottage" should be a cottage in its proper meaning, and that only. It should have an air of repose, of coziness, and convenience, so that every one passing it should say: "How comfortable!" It could be done at half the cost of the other thing. The term "cottage" is full of meaning—low walls, a high roof, wide eaves, a veranda in front, and perhaps on the sides, spread broadly over the ground, climbing plants, shrubbery, and trees. There it is. Go in and take your comfort in your own natural way.

Mr. Smith hopes I am not going into a crusade against Mr. Downing's reform labors in architecture. By no means. But all Mr. Downing's architectural plans were not "reforms." He was just on the threshold of his new profession when he so unfortunately died. Had he lived, his own matured judgment and finely cultivated taste would, ere this, have thrown aside as worthless much that his early enthusiasm had recommended. Every year of his valuable life gave evidence of his chastened perceptions of the useful and appropriate in country architecture. A more appropriate style in country houses among our best architects, is already apparent, and our better houses are again approaching the square or parallelogram, with less of irregular wall, and more symmetry of proportion. *Flat* roofs, be they of tin, zinc, or copper, are not the things for American climates, *in the country*; and so our architects will find out ere long. Old things are not always to be discarded because old, nor new things to be adopted because new. The world has known something before our day.

JEFFREYS.

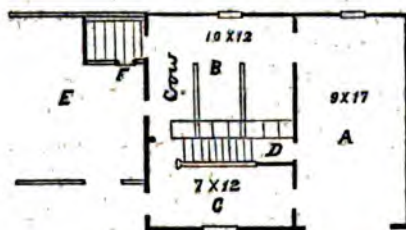
COTTAGE STABLE.

BY W.

BELOW is the design for a cottage stable, in a very compact and economical form, and yet with not an unattractive exterior. It is 18 feet by 22 feet on the ground. The posts to be 13 feet high. The roof a right angle, projecting the walls one foot. The boarding to be put on perpendicularly, with close joints, and battened. A cellar beneath the whole.



Explanations.—A, the carriage-room; B, three stalls for cow, or horse; C, tool-room, from which is a stairway ascending to the loft; D, a closet under the stairs for harness; E, barn-yard; F, entrance to barn cellar, under the passage to the stable-door. A trap-door may be made in the floor of the stalls, by which to convey litter to the cellar. A passage is left open from the tool-room to the cow's stall, which, if preferred, may be closed up. The tool-room will be found a convenient arrangement for any small rural establishment. The whole may be neatly constructed for about two hundred dollars.



GROUND PLAN.—18 by 22 feet. SCALE.—16 feet to the inch.

This design is suggested as an economical substitute for the plan presented in the *Horticulturist* for June.

WORCESTER Co., Mo., June, 1856.

THE DEVELOPMENT AND RIPENING OF FRUIT.

BY WILLIAM CHORLTON, NEW BRIGHTON, STATEN ISLAND, NEW YORK.

To gain a philosophical conception of this all-important topic, requires an acquaintance with the structure of the plants we have to deal with, and limiting ourselves, for the present, to fruits, we find that the plants which produce them are, with very few exceptions, of the most compound organizations—all being composed of vascular and cellular tissues, and the greater part capable of forming permanent woody fibre.

It is well known to all vegetable anatomists, that plants are composed entirely

of cells, which are of different kinds, and disposed, in various ways, to build up the general structure, that through this multitude of variety the fluids and gases permeate, to support the waste and enlargement of the integral parts, and that the periodical action is kept up by the influence of heat, light, and moisture, so long as the vital principle is present with the individual. The first burst of growth after the period of rest, is nothing more than the development of these cells or structural embryo, which were formed the season previously, and accordingly as the centralization was more or less favorably constituted, or, in other words, well, evenly, and perfectly ripened heretofore, so will the expansion be vigorous, or not, and the show for blossom be abundant and fine, or sparse and deformed. This centralization can only be obtained complete when the plant is under the most genial influences, and has the advantage of favorable circumstances. According to the constitution of each individual species, so will these requirements differ. One, for instance, would do with more steady heat than we generally possess, while another is better suited in a cooler climate; and taking these differences, we must readily conclude, that in neither of these two examples will there be an uninterrupted and equal formation of the required peculiar organism for another season's fruitfulness. In the former, there is a want of concentration, and, consequently, a deficiency of fruit, but abundance of leaves; and, in the latter, the cells will be too hastily formed to properly act the part for which they were destined, and the cell walls too indurated to allow the juices to flow freely, producing stunted growth, depauperated and few flowers, and small fruit, deficient in quality, having a tendency to dryness and austerity.

It is from the free and healthy action of the leaves that we must look for all success in fruit growing; they are the great chemical laboratories; the crude juices which are absorbed by the roots are here elaborated and changed, by the combination of gases from the atmosphere, when pure structural cells are formed. In a natural state, we find that, in fruits generally, there is more of woody fibre than in those which are cultivated; they are also situated in the climate which is adapted to their peculiarities. Here is the more hardy constitution unimpaired, and a less tendency to disease or premature decay; but, in the cultivated, we have comparatively more of the cellular, a gorged body (if the expression may be used), which has become constitutional and hereditary; consequently, there is less hardihood to resist any unfavorable influences—hence the necessity of careful attention. In cultivated fruits, generally, we have larger and more robust leaves, which, if they be favored with uninterrupted action during their natural period, will do their full share of work in storing up the extra demand for true sap that is needed for the larger and more numerous cells, or those of a character which are suitable for the after development of fine fruit, and, in a plant of permanency, of also adding to solid bulbs. An equipoise of root and leaf is necessary to support life, but, as the latter is the great store for maturity, it is more essential to our purpose than the encouragement of extreme extension of the roots. The pear or quince stock is an example in proof of this assertion; the roots of the quince do not extend so far away from the tree as do those of the pear; the spongioles are comparatively more numerous, but they are not capable of absorbing so much crude matter from their smaller proportions, yet they are sufficiently so to keep in health the more robust varieties for many years. In this case, the leaves are forced, as it were, to deposit the carbonized juices in the body of the tree in a more fluid state, and the downward current is arrested; and hence is composed the shorter but more plethoric growth, with an increase in fleshiness and size of the fruit.

The same causes that affect the leaf will affect the fruit also, for they are co-existing parts of the same organism, the latter being different only in having arrived

at that highly concentrated state to which all vegetable action tends when the circumstances have been in accordance with the want. We shall understand by this, that at maturity, nature casts off the fruit in the same way that the leaf falls when it has fulfilled its office; but there is this difference in the two: the leaf has been forming a bud in its axil which remains behind, and attached to the parent, while each receptacle of the fruit has, in the mean time, been perfecting its bud or buds, according to the structural complexity in the centre of, or upon its own body, and which becomes an independent germ, liberated from the main body when in a fit state to develop itself. It is then evident that injury to one will likewise affect the other.

Light is the great solidifier of the juices of plants, and the more a leaf or fruit is exposed to it, the more vascular will the progress of growth become. Now, this being the case, as the leaf has to provide for another period of development, it is requisite to expose it to all the influence of light that the plant's constitution will bear; but, in the fruit, as we want pulpiness and good flavor, we find a partial shade the best, so far as may be consistent with the securing of sufficient saccharine matter, and the particular aroma for which some fruits are so much prized. Generally speaking, nature has provided, in her own economy, for this particular, but there are individual cases where a partial shade would improve the quality, providing it be applied so that the leaves may be exposed. This is more particularly feasible when we consider that the leaves exhale a great portion of the fluids, and pass the more solid parts into the increasing bulk of the plant, while the fruit retains nearly all that is absorbed with which to feed and mature the seed. The fleshy part of the fruit, and that for which it is valued, is a complete organization of cellular formation like all other parts, only that the cellular preponderates. While the fruit is swelling, or increasing in size, these cells are active, and imbued with the principle of life, but, like all other parts, they have only their allotted period of existence, which extends to the ripening of the seed. After this, they become disorganized, chemical action and consequent expansion take place, and, by a beautiful arrangement of elementary particles, the carbonic principle forms sugar in solution with water, and combines with other minor products, so as to establish the varied lusciousness that is so grateful to the palate. According as each individual variety has, during the time of development, received its just mete of necessities in food, light, and heat, so will the ultimate combination of elements be, and from such proportions will the chemical action be guided. If there has been any undue disturbing cause during growth by excessive shade, heat, cold, dryness, moisture, or sudden transitions, or from one to the other of any of these, so will it act to a disadvantage, and more particularly will this happen at the time of the last "swell." The uneven balance of these nice points is the main reason why grapes, under artificial culture, so often ripen off a bad color, and remain coarse in texture; the natives rot and fall off prematurely, and many pears become gritty and cracked, from the simple fact of there having been a sudden check to nature's action, the result of which is, the cells do not break up uniformly, the coloring matter is not duly deposited in the right parts, chemical action is arrested, and the flavor is deficient. The blistering of the leaves may be traced to the same origin, and there is little doubt but most of the diseases we have to complain of are the effect from the same cause.

We have nothing to gain by all cultivators becoming simply theorists, but this does not argue against the necessity for a more general diffusion of physiological knowledge in practical pomology, and the above few remarks are hastily thrown together with the hope that the subject may be freely discussed in future pages of your valuable journal, as the merit of the case demands.

SIEBOLD'S JAPAN PLANTS.

EDITOR OF THE *Horticulturist*.—DEAR SIR: In a late number, you refer to this fine collection, and, after naming some of the principal, inquire "who will be the first to advertise these in America?"

I have a suspicion that many of these are already amongst us. Of those you name, I have certainly seen *Catalpa Rumpferii* in some catalogue, and I have now before me a catalogue of one of your own neighboring nurserymen, that contains *Tecoma Thunbergii*, and, for a new plant, at the low price of seventy-five cents.

But you will say, why not advertise them? I will tell you, my dear sir, as I have had a little experience in that line myself. Our friends won't buy new plants of us. Believe me, the few of those who care for new plants, do not wish for them through a love for a beautiful rarity so much as for the false pride of possessing something no one else has in the country. If a nurseryman gets it, its charm is gone at once. Therefore, European nurserymen get whatever patronage is to be bestowed in this line, to our detriment. A respectable Philadelphia nurseryman, and who, in spite of all lack of encouragement, yet for his own gratification, has probably imported more new plants than any other man in the States, once told me that he had given up advertising new plants, as he never got any return for the expense.

If one-half of those who now import new plants direct from Europe, would give us any "chance," you would soon see "what you should see" in the way of advertising new things.

Soja japonica, or *Hispida*, the true Soy plant, has been amongst us for three or four years, having been distributed by Mr. Ernst, and the Cincinnati Horticultural Society, under the name of Japan Pea (not the Japan Pea of last year, distributed by the Patent Office).

Truly yours,

AN EASTERN NURSERYMAN.

BRUGMANSIA.

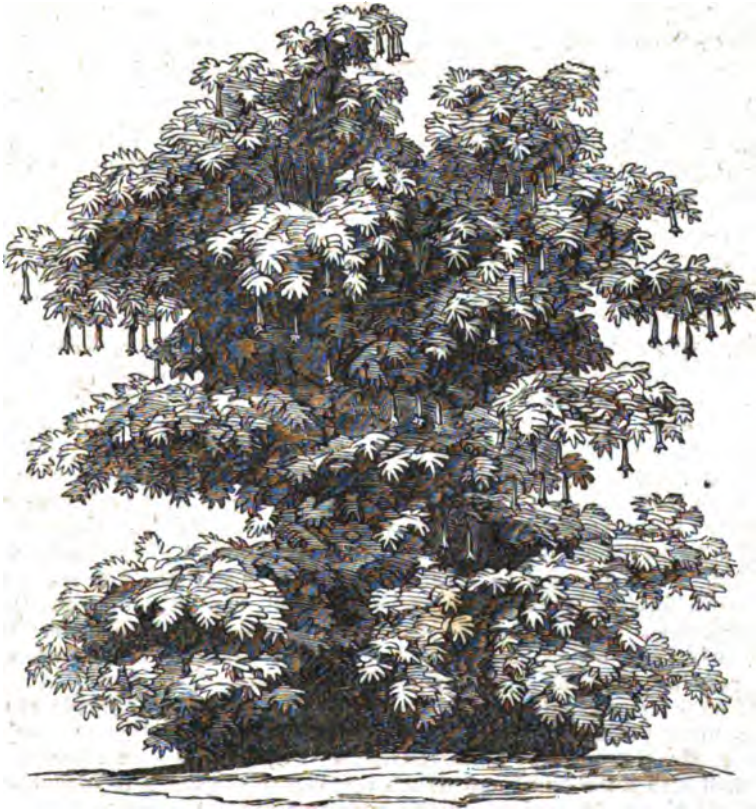
At page 289, Vol. III., of the *Horticulturist*, will be found an engraving of the Double Brugmansia, cultivated by Downing. In the following article is described the *B. sanguinea*, which must be one of the handsomest objects ever introduced:—

BRUGMANSIA SANGUINEA.

A noble specimen of this fine plant grows in the pleasure-grounds adjoining Crom Castle, the seat of the Earl of Erne. It was planted in a conservatory in May, 1845, and was then about three feet high. Notwithstanding severe annual pruning, it grew too large in a few years, and was considered scarcely worthy of a place under glass. In May, 1851, I planted it in the open ground, having, the previous autumn, cut its roots three feet from the stem, and ever since it has attracted the attention, and been universally admired by the numerous visitors to this beautiful demesne. At the request of some ladies on a visit here, I measured the plant last August; it was then fourteen feet six inches high, and girthed at the ground two feet six inches, and covered an area of one hundred and sixty-five square feet. At that time it was really a beautiful plant, completely covered with flowers and foliage to the surface of the ground; I then counted one hundred and eighty flowers fully expanded, with twice that number ready to open. A gentleman told me, a few days afterwards, that he had counted above two hundred open on it. It would be difficult to calculate the number it produced last summer, but

I would say at least some thousands, as there was a regular succession from the beginning of summer, and it has now, January 5, many open on it.

It was planted in a mixed soil composed of loam, bog earth, a good portion of charred matter, rotten dung, and leaves—perfect drainage of course being secured. As I learned from experience that *Brugmansia* will not stand our winters without protection, ever since it was planted in the open ground I each year, in October, covered it by sticking poles in the ground, five inches apart, the spaces between being stuffed tight with grassy moss raked from an adjoining wood. A span roof is then put on, one side of which is thatched, the other covered with sashes, which has an additional covering in long continued frost; to make all sure, I put inside a few cast metal pipes, connected with a stove, but even last winter, although very severe, they were seldom used, as it requires a very great frost to penetrate through



moss a few inches thick; at the same time, arrangement for free ventilation is provided. I take the protection gradually away in March and April, and altogether in May. It may be considered that the plant is not worthy the trouble thus bestowed on it, but few could see it in summer and make that remark. The branches are shortened in before covering, or it might have been twice as tall as it now is. The accompanying representation will give some idea of the general appearance of the plant when in bloom.

There are many free flowering plants, commonly occupants of the greenhouse, which I think would succeed quite as well planted out as the *Brugmansia*, large specimens of which would add a new and interesting feature to our pleasure-grounds. I propose planting out a few next May, with a view to their remaining out through the winter, and getting glass structures made (so that they can be easily increased in size at pleasure, and removed in spring) for their protection. Some who have the management of gardens may remark, and perhaps with justice, that it is more easy to write about these matters than to get the necessary means for their execution; but here, I am happy to say, such is not the case, as my noble employer, who is both indulgent and generous, puts no obstacles in the way of improvement or experiment.—*Robert Dowling, Crom Castle Gardens, Co. Fermanagh, Ireland.—Gardeners' Chronicle.*

It is scarcely possible that any amount of protection, short of the hot-water pipes, in this climate, would preserve it through one of our winters, but it is a plant that lifts very easily; if taken up early, potted in a large tub, and kept over the winter rather dry, in a cellar, protected from freezing, and, on the return of spring, after all danger from frost is past, again transferred to the open air, it would no doubt succeed perfectly.

It may be remarked that the *Brugmansias* are often called *Daturas*, from the first name having been given to another tribe of plants. The Double White is a pleasing garden ornament.

THE ENGLISH BIRD CHERRY.

BY A PHILADELPHIA AMATEUR.

TAKING up a catalogue of an Eastern nursery, under the head of *Cerasus Padus* it remarks, "this is a most beautiful small tree;" and it is most truly so. Our own Wild Cherry (*C. serotina*) is a gem in its way, but the present is a diamond of the first water—the Koh-i-noor of ornamental cherries. Yet you may not see it often; it is as rare as it is beautiful. As soon might you see the *Victoria Lily* in the commonest duck-pond, as this beautiful tree in a gentleman's grounds; yet it is not their apathy, for nurserymen seldom keep it, nor the nurseryman's fault, for he is not aware of its real beauty. It has no English reputation, for there it deserves none. Though a native of that country, it proves hardly worthy of the soil. No sooner did an American atmosphere rush through the lungs of our English forefathers, but the present go-ahead Yankee nation was formed. Even their trees essay to partake of our spirit, and their little scrub cherries become our most honored arboricultural citizens—genuine, back-bone Know-nothings, ashamed of the insignificance of their origin.

With more frequent opportunities to observe it, our practical friends will seek more to possess it, and it will be more and more sought after by lovers of trees. I do wish, Mr. Editor, every nurseryman in the States could see a specimen I was enraptured with, a few hours ago, on the very beautiful grounds of your neighbor, Geo. H. Thomson, Esq. I would give your readers some idea of this tree, were it not indescribable; or attempt to sketch it, if I felt that it could be portrayed. Both pen and pencil failing me, I will only ask that they imagine a perfectly conical and densely furnished bush, about twenty-five feet high and fifteen diameter, so very well furnished at the ground, that for anything we see, it might be seated on, instead of growing in it. Over this cone of shining green, pear-like foliage, thousands of six-inch racemes of snow-white flowers gracefully hang scattered, saturating the air around with their fragrance, and with a sweet will, as

if they knew they had the power of conferring pleasure to the beholder, and desired no other recompense.

But all this does not constitute their only charms ; scarcely have they

"Cast their wreath at Beauty's feet,"

than they invite other happy beings to minister to our joys. To the birds, their fruit presents a "dainty dish;" as it ripens, the branches are more animated by their presence, and so long as one is left on the tree, they continue to afford what has justly been considered one of the happiest associations of a country life.

Our little tree is not "hard to raise." The stones should be separated from the pulp soon after gathering, and be preserved in sand till fall, and then sown ; they will appear the next spring. If sown in spring, they will not come up till the following year. Their after culture is very simple and easy, requiring soil and treatment suitable to cherries in general.

[We fully indorse our correspondent's praises. It is a desirable small tree for all ornamental grounds.—ED.]

SEEDLING TREES.

BY THOMAS MEEHAN, GERMANTOWN, PENNA.

RAISING young nursery stock is not the simple operation some imagine. It is easy enough when thoroughly understood, as, indeed, anything else is. As something that will pay, it is worthy of better attention ; for who can believe that an European nurseryman can pay for the collection of American seeds, transporting across the Atlantic, raising the trees, with all the risks of importation, and then sell them to American nurserymen cheaper than they can themselves raise them ? Yet this is the practice—probably nine-tenths of all the young nursery stock of America being imported.

I do not propose to go into the whole details of stock raising ; and you, my dear sir, in these days of secret curculio remedies, would not wish to give to your readers, for the price of a year's subscription, information that might be worth a good nursery business to some of them ; but being interested in the sale of tree seeds, I cannot but desire the success of my customers, and hence offer these remarks on the department of seed raising.

Whatever seeds are to be sown, it is of the first importance that the soil be *deep, clean, rich, and well-drained*. If these conditions cannot be secured, better not attempt to raise seedlings, but continue to import the young plants till they can be, otherwise the attempt will "cost more than the plants come to."

A piece of land for seedlings should be under thorough culture for at least two years previous, so that every weed shall have been entirely eradicated. It should be well manured both seasons, so that, when ready for seeding, it will be rich, light, and mellow ; and, above all, it should be trenched or subsoiled at least eighteen inches deep. Thus you will not be troubled with weeds abstracting the moisture and nourishment, or calling for manual labor which does not pay ; and your plants will grow "like willows," holding on to their own, even in droughts like that just passed. Rest assured, that if you starve your seedlings, they will starve you.

As a rule, all seeds grow better in a sandy soil than in that of a loamy texture ; and some seeds, which I will specify before I conclude, will do only in such circumstances. Aspect is not of great importance, an exposure to the full mid-day

sun being only to be avoided, or steep slopes that are liable to wash with heavy rains.

If there be ground enough to spare, it is best to sow the seeds in rows; the seedlings get more light, and so grow more vigorously, and the ground between them can then be loosened occasionally to their advantage; but if the ground be properly prepared as I have advised, they do very well sown broadcast in beds of about five feet wide, or sufficient to enable one to get in to thin or weed if required.

So much for soil and mode of sowing generally; the next is to apply the individual cases. Many seeds will not grow if kept long out of the ground. Of this character are some maples, horsechestnuts, sweet chestnuts, laurus's or the sassafras family, and most of the oaks. These should be sown as soon after collecting as possible; they will, for the most part, grow at once, and be fine little plants before winter sets in. The oaks, even though ripening late, will often send down roots three inches long before they get frozen in. These, in sowing, do not require to be covered more than a quarter of an inch with soil. When it is not convenient to plant at once, seeds of this character should be put into sand, and kept barely moist, and as cool as possible, until all things suit.

There are other kinds that do not grow if not planted before winter. The euonymus, rhododendrons, yews, clematis, all maples and ashes, hickories, and walnuts, nettle-trees, cleanthus, and silver bells, chionanthus, dogwood, and magnolias, usually the lindens, and viburnums. Some seeds, even if put in the ground in the fall, if allowed to get "dead ripe" before gathering, will not come up till even the second year. The hawthorns, dogwoods, and hollies, are examples. If such do not come up the first year, they should not be disturbed. I have a bed of *Crataegus cordata* which appeared in June, this year, and which were sown in November, 1854.

Sometimes it is not possible to get seeds to hand till the frost has closed the ground. The method is then to place them in boxes well mixed and covered with sand, and placed out in exposure to all weathers; but great care must be taken to put them out very early in spring, or they will begin to sprout, and hundreds get destroyed in the operation. This plan should not be followed if the seed can possibly be got in before winter, as they are more apt to suffer by dry weather when retained till spring.

The kind of seeds which do well retained till spring, are principally pines and coniferous plants, the pea-flowered tribe, as the locusts, Kentucky coffee, amorphas, Judas-tree, and laburnum. Pines of all kinds grow best in sandy leaf soil, in a situation not liable to be dried by the sun, or saturated with heavy rains. They must not be buried deeply in sowing; the smaller seeds very lightly raked in, and the larger ones merely sown in dry soil, and beaten in with the back of the spade. The leguminous seeds are best soaked a few hours before sowing, and should particularly be sown very early, and in deep, rich soil; they are best always sown in rows about as wide apart in the rows as peas are sown, and covered from a quarter to a half inch deep, according to size of seed.

Most of the hard-shelled seeds grow best when sown in sharp, sandy soil, kept constantly moist; the holly and halesia are especially of this kind. Every tribe of plants—almost every species—has some peculiar taste of its own, leading it to prefer a particular mode of treatment. This can only be learned by experience—our own, or that of others. In all cases, a strict watch must be set on all kinds of vermin; ground-mice are the most destructive. These are easily kept in check by using peas, soaking them twenty-four hours in water, then rolling them in arsenic, and burying them in the soil.

Crows and chickens are next in order in their destructive propensities, especially on acorns, beechnuts, chestnuts, and soft-shelled seeds generally. The remedies for these are various, depending, in their application, entirely on the feelings of the seed-grower. Many employ the gun with good effect.

MOVED TO THE CITY!

JULIA has moved to the city! Our amiable competitor for early salads and fine camellias, has become entangled in the meshes of love, and for this she has left her garden!! How much of her individuality has she not lost? We were never weary of talking over our fruit projects, and our insect remedies, in vying with our bouquets and asparagus. Our grapes and our pears made regular tours to each other's tables. What pleasure can I now take in sending a fine bowl of perpetual strawberries, or a basket of my Reine Hortense cherries? She buys her vegetables from the market! eats stale salads and radishes, and, for the sake of her lover-husband, is therewith content!

Julia and I have no longer a common topic. When I visit her, she will parade her purchased fruits, and, very probably, may substitute for them sugared bon-bons. Ah! Julia—that was a mistake to devote your affections on a cit; I am much afraid—dare I say it?—you have not married your right husband! Does he know the names of your favorite roses? Is not one bouquet as good as another to the man brought up on Wilton carpets in Walnut Street? Why, spring has gone and autumn come! my lost Julia, and can you consent—have you really consented—to traverse paved streets, and look out upon a garden—no, it is not a garden—upon a paved yard with only one sickly tree and a clothes-line in it? What will you substitute for the early apple-blossom, the fragrant grape-vine, and the ever-engrossing new buds that formerly engaged so much of your fond care?

If I did not fully believe your earlier attachment to the beauties of nature would surely return, I would have to write you out of my books. I will send you flowers, and fruits, and your favorite moss rose-buds, if for no other purpose, for the selfish one of keeping you in order for a future return to us. Shall I tell you of the bulbs you so resolutely tore yourself away from? They are peeping from their old beds to-day, and will soon be in all their panoply of glory! Your spiræas, unconscious of your absence, promise a full display, notwithstanding you have left them. The birds are singing merrily, and mating, too, but they do not choose the chimney tops for listeners to their notes. Your rosewood piano and gas-lights, Julia, are a poor substitute for the robin or the newly-arrived twittering wren!

You have unconsciously given me a theme, and, though I will not call you fickle, like the April that has passed, I must deprecate the altered mode of life your new relations have brought you into. Why, in the country, you were companionable!—are you any longer so? Will your talk be of verbenas, or your ambition be for evergreens? Can you think of mignonette, and of your old lawn, when you are surrounded by omnibuses? Alas! no. The next time we meet, you will tell me of some crowded lecture, a concert, or a party. A party, Julia, where there are no fresh flowers from your old conservatory, and where the artificial will predominate over the natural! Pray, my darling Julia, get your new man to make haste and be rich, and return to our rustic habits, our rural lanes, and drives, and walks; but, above all, to your good old garden, where your ancestors dug, and delved, and planted—where, Julia! you passed so many happy hours of careless child and opening womanhood!

Julia was our *beau-ideal* of an American lady. She was versed in all those accomplishments which render a home in the country a pleasant place to visit. She had read, and read wisely; understood history, music, and belles-lettres, and was acquainted with the physiology of botany. No one could so well direct a gardener, and, what was more to the

purpose, no one of her sex wielded a trowel better. She did not make her garden for a mere promenade and a show; she studied the habits of her plants, and understood them, and, of course, they understood her. Who so well could prepare a luscious evening feast from her own vines and trees? Who had such delicious cream? Were not her conserves the perfection of art? her grapes the best? And then, with what a relish they were eaten, fresh from nature's bountiful cornucopia. There was always enough, no matter how numerous the accidental guests; the resources of that house very few could understand. We passed it but yesterday; the windows were closed—the hedge has not been trimmed—the garden is all but a wilderness. Servants pluck the degenerate fruits, and a cow has the pasturage of that beautiful lawn! Julia! all this is true; can you read of it without a sigh? Can you say, truly, you are any happier for the change? I hope so—but I believe it tremblingly.

Julia, we have said, was an example; for how few American ladies there are who thoroughly enjoy a garden—who, implement in hand, and knowledge to direct it, pursue with enthusiasm the occupations which a true lover of floriculture enjoys?

Health, and, consequently, beauty, are best sought by a daily intercourse with nature. When we see a faded form, it can be too often traced to the close, unventilated room, and the absence of daily exercise. Depend upon it as a truth, the open air is the place to live in, at least two or three hours of most American days, and the indolent young ladies who will not practise either gardening, or walking, or riding *à cheval*, may expect, before they are thirty, to lose that complexion which was the charm of their youth. Do you still remember, Julia, that in the country

"There is a dance of leaves in that aspen bower,
There's a titter of winds in that beechen tree,
There's a smile on the fruit, and a smile on the flower,
And a laugh on the brook that runs to the sea?"

Julia, *come back!*



FOREIGN NOTICES.

BALLOON SPIDERS.—During the last month, I have placed in my parlor-window several glass jars in which plants and animals are displayed, in the way that you may have seen them, on a grander scale, in the Royal Zoological Gardens. Diving water spiders (*Argyroneta aquatica*) prove very attractive. "These spiders," says De Greer, "spin in the water a cell of strong, closely woven, white silk, in the form of half the shell of a pigeon's egg, or like the diving-bell. This is sometimes left partly above water, but at others it is entirely submerged, and is always attached to the objects near it by a great number of irregular threads. It is closed all round, but has a large opening below." Into this opening the spiders convey air-bubbles and there burst them, so that their habitation is gradually expanded with atmospheric air, until they have a large, dry room, surrounded by water, to deposit their eggs in, and bring up their progeny. There is a crowd daily round my parlor-window to watch the operations of these balloon spiders. I hear the conversation of my juvenile visitors, and, when I find occasion to do so, give open-air lectures to the auditors. I have, besides spiders, fishes, beetles, and marine animals, all healthy, and kept with very little trouble. The only thing needful is to establish a balance of animal and vegetable life. If the *Valisneria spiralis* becomes brown, I put in a water-snail, which soon removes the confervas; if the water becomes cloudy, I add plants or animals, as experience directs, and without ever changing the water it remains pure and bright.

If gardeners would give themselves the trouble to attend to a few of the marvellous objects around them, they would augment the pleasures of their occupations, and obtain valuable knowledge, and thus might be established a bond between youth and age; for, if once a child is roused to the pursuit of natural history, he will become a pleasant companion to grown-up people—he will become merciful, for it is impossible to love God's creatures and be cruel to them, and it is impossible to know the wonderful works of our Almighty Creator and not to love them.

Schoolmasters should, by command, instruct their scholars in the outlines of natural history. Nothing is more easy—nothing tends more to give purpose to pleasure, or to fill up spare moments more profitably.

I would not have lads made *collectors* but *observers*. Instruct them to venerate life, and to destroy it only as an act of necessity—never in wantonness—never needlessly, not even the life of a plant.

C. E., in *Cottage Gardener*.

WISKEA AMABILIS.—In your number for May, page 139, is a notice of this plant, comparing it with rosea, which, as an early forcing pot shrub, it far surpasses, and only requires to be more known to become a general favorite, and admired as much, I have no doubt, as it has been here for the last two seasons. It blossoms freely in a 48-sized pot; its light, graceful branches, when covered with pinky blooms, make it a fit companion for the pretty *Deutzia gracilis*, which it much resembles in the treatment it requires. When done blooming, I cut the plants down like the latter, inducing them to make as many young shoots as possible for the next season's display. By a succession, it can be had in bloom from February up to the present month.—J. F., in *London Florist*.

SALE OF MR. LODDIE'S ORCHIDS.—The first portion of this unequalled collection of Orchids took place on the 15th and 16th. The collection comprises two thousand specimens, and

these represent upwards of twelve hundred species. On the above occasion, there were 280 lots, and Mr. J. C. Stevens, the auctioneer selected to distribute them, obtained for them £717, but, as only about 260 lots were sold, they averaged but little less than £3 per lot. We have only space to mention such as realized the highest prices. *Oncidium Lanceanum*, £9. *Dendrobium Farmeri*, £8 5s. *D. densiflorum*, £8. *Ærides Larpentea*, £9. *V. teres*, £10. *Oncidium purpuratum* (new), £8. *Vanda suavis*, £10 10s. *Ærdis odoratum maximum*, £9 10s. *Æ. quinguevulnerum*, £10. *Cæolyne pandurata*, £11. *Ærides nobile*, £21. *Æ. Schroderii*, £19 19s. *Saccolabium ampulacium*, £15; and *Vanda Batemanii*, £43 1s.—*Cottage Gardener*.

PLANTING.—The late Sir Watkin Williams Wynn planted, from 1815 to 1820, upon mountainous lands in the vicinity of Llangollen, situated from 1,200 to 1,400 feet above the level of the sea, 80,000 oaks, 63,000 Spanish chestnuts, 102,000 spruce firs, 110,000 Scotch firs, 90,000 larches, 30,000 wych elms, 35,000 mountain elms, 80,000 ash, and 40,000 sycamores.

CHEAP VARNISH FOR WOOD AND IRON WORK.—I send you a good receipt for a very useful black varnish for wood and iron work, and which needs no boiling and risk of burning. It is—one gallon of coal tar, half a pint of spirits of turpentine, two ounces of oil of vitriol, stirred and laid on like paint.—C. G. G.

Dog-BREAKING.—A third edition of Colonel Hutchinson's capital book on *Dog-Breaking* (small 8vo., Murray, pp. 328) is before us. The present edition contains new matter concerning settlers and pointers, Spanish retrievers and bloodhounds, and conveys some useful hints about game. The wood-cuts, of which there is a profusion, are worthy of the letter-press, which is saying a great deal.

FORCE OF GROWTH IN PLANTS.—The following inquiries and answers from the *London Gardeners' Chronicle*, will be interesting to many of our readers, and satisfactory to those who do not inquire: What is "vital force?" Will you, or some one of your readers, explain the *modus operandi* by which it is believed, by physiologists, the young plant gets through the surface of the ground? Is it due to the effect of a mechanical force in the plant, acting with a continuous yet infinitely slow motion, or, in other words, a mere slow thrust? [Yes.] Or is there any chemical action upon the surrounding soil by which the soil is caused to expand, and so a passage is opened through it for the prisoner ready to escape? The marvellous phenomenon of a young mushroom bursting through the hard surface of the ground, without any breaking or bruising of its outer skin, has long puzzled your constant reader, *A Bumpkin, Ros.* [Its cells multiply and expand irresistibly under the influence of vital force.]

KEEPING LATE GRAPES is an interesting subject to those who at one season have a superabundance. We find the following rational suggestions in a late London journal; though they do not differ essentially from former recommendations in this periodical, they are practical and important, and just now seasonable:—

"There is one point respecting the mode by which Mr. Sanders keeps his late grapes which deserves special notice. The grapes, when ripe, are not permitted to remain on the vines; Mr. S. considering that when once the fruit is ripe, it can be better and more economically preserved, when cut and kept in a suitable room, than by letting them remain on the vines. His practice is, therefore, with the late houses of Muscata, &c.—say towards the middle of December—to cut the fruit with the wood attached to the bunch; the cut end of the shoot

is closed over with sealing-wax, and the bunches are taken to a dry and dark room, where they are suspended from the ceiling on rods which are placed across the room, and on temporary tressels: the bunches must on no account touch each other, and will require looking over once in a week, to remove any berries which may happen to get mouldy among them. Mr. Sanders informed us he has practised this for years, and keeps the grapes without shrivelling, and in very good condition for the table, until the beginning of March, by which time the early forced grapes are ripe. There can be no doubt that after grapes are once ripe they will keep better when cut in the manner described and hung in a dry dark room where a uniform temperature of something like 40° can be maintained, than when allowed to remain on the vines. The great drawback to keeping grapes through the winter is damp and the action of the sun's rays, which, by exciting a circulation in the sap of the vines, tends to produce decay in the ripe fruit. We were ourselves forcibly reminded of this at the end of last February with a house of the St. Peter's. The mild warm weather of that month put the sap in motion, and we found it even exude from the berries, which rapidly decayed in consequence. Now had these grapes been cut previously, and kept according to the plan of Mr. Sanders, this would not have happened, and the grapes would, we doubt not, have kept till the end of March. The economy of the system must be obvious to all; the expense of firing houses with retarded grapes is great, particularly in wet weather, as air must be given largely at the same time, and this expense is increased when, as often is the case, only a few grapes are left, as they are just the same trouble. We need not say, as an additional recommendation, that when the fruit is out the house can be used for a variety of purposes, which would be impossible when it contained the fruit. As the best plan for fruit rooms is now often discussed, we hope a dry compartment for the above and other similar purposes will be connected with it, as one of the most useful garden structures which could be built where fruit has to be kept, and which no good garden should be without."

DWARF DAHLIAS.—Dwarf Dahlias may be produced by bending down the stems while young, and keeping them in the required position with pegs. When cultivated in this manner, they grow into large masses, and produce a fine effect; at the same time, they can be conveniently covered during the early autumn frosts, and their beauty retained for a much longer period.

CONDENSED EGG.—A process has been devised for drying eggs, so that they will keep good for any length of time. This is effected by evaporation. The yolk and white of the egg are exposed to a slow heat, and the moisture is thus driven off. The whole is then reduced to powder, and packed up in tins. The material is not necessarily kept air-tight, but may be freely exposed to the air. The powder is used in the ordinary way as eggs are, being mixed with a little water, and is thus an excellent substitute for milk on long voyages, besides capable of being used for all cooking purposes in the same way as the fresh egg. The powder will keep any length of time without fear of deterioration.



EDITORS TABLE.

WODENETHE.—In describing, or, rather, *attempting* to describe *Wodenethe* in a former page, we found it impossible, in a limited space, to give an idea of half its beauties. There was one little matter, however, that we must refer to as an ingenious application of a portion of the *Horticulturist*. In erecting new summer chambers for numerous guests, Mr. S. ingeniously employed some of our colored engravings of fruit to assist the frescoes of the ceilings. Groups of flowers taken from French paper-hangings, form the main features, and, at the corners, appear conspicuously a pear, plum, or peach, with their rich and correct coloring, forming a very beautiful finish when the whole is covered with a delicate varnish. The conceit worked well in practice, though, we presume, few subscribers would be willing to part these pictures from the volumes where they belong. Mr. Sargent's house is a model on which we may some time descant.

THE POMOLOGICAL CONVENTION, AT ROCHESTER, is now over; it occurred just as we were going to press. At one time, we thought of delaying our publication, in order to insert its proceedings, but found it would make confusion, and, that the *Horticulturist* having obtained a reputation of late for punctuality, many readers would be disappointed, and, after all, an imperfect and hurried report would be the result. In our next, we shall endeavor to give the particulars. The next event, in our vicinity, is the

NATIONAL AGRICULTURAL EXHIBITION, at Philadelphia, under the able generalship of Colonel Wilder, respecting which all are now on the tip-toe of expectation of a show to *outdo itself*. It is a little too much in the horse and cattle line, perhaps, for some, but its completeness in other particulars is expected to redeem this feature, even to those exclusively horticulturally inclined.

MR. CHORLTON, ON GRAPES, receives a flattering notice from the *Chronicle*, but, as usual, the editor has his fling at America. It says of our grapes: "The process of hybridizing seems to promise advantages, notwithstanding the bad quality, as we think, of the native American grapes. Their mucilaginous pulp, and strong musky or foxy flavor, render them unpalatable here." No doubt, because you have not half sun enough to ripen them. It would be just as correct to depreciate the pine-apple, because it won't ripen in the open air in that paradise of smoke, London. (See Mr. Chorlton's reply, page 484.)

THE PEPPER VINE.—A correspondent reminds us, regarding the *Ampelopsis bipinnata*, that in Torrey and Gray's *Flora of North America*, the *Ampelopsis bipinnata* of Michaux is given as *Vitis bipinnata*. It grows in damp, rich soils, from Virginia to Georgia, and west to Arkansas. Stem upright, or somewhat twining. Berries globose, as large as a small pea, blackish when ripe, and slightly hairy; a much handsomer plant than the *A. hederacea*.

The *Ampelopsis cordata* is the *Vitis Indivisa* of Torrey and Gray's *Flora*. It has a cordate, somewhat three-lobed leaf, three to four inches broad, and coarsely serrate. It grows in swamps, in the Southern States, and west to Louisiana and Arkansas. It has a long, twining, smooth stem, and a berry a little larger than a pepper-corn.

PEAR-TREE OIL.—The following is going about in the papers: "From experiments lately made with the fruit of the pear-tree, an account of which appears in the *Society of Art's Journal*, it seems probable that a new substance may be brought into use, possessing considerable commercial value. According to the analysis of Dr. Hoffman, the oil expressed from the seed, when divested of its peculiar bitter taste, may possibly be made a substitute for olive oil as an article of food. In illuminating power, the oil is not much inferior to the average quality of sperm-oil."

This is very pretty on paper, but does the writer know how scarce pear seeds are? We apprehend it will be a very long time before enough can be spared from planting to make a pint of oil.

THE UGNIA UGNI.—The *Chronicle* says: "If bushes of the *Eugenia Ugni*, perhaps the richest in flavor of all the uncommon exotic fruits, were mixed with the orange plants, they would give variety to the appearance of a house, and enhance very materially its value. In our own opinion, the *Ugni*, when properly ripened, ranks with the vine and the pine-apple. Its fault is that the berries grow singly, and are no bigger than Black Currants; but, on the other hand, it produces its fruit in abundance."

SOIL FOR ORANGE-TREES.—Mr. Thomas Rivers recommends growing oranges more commonly than is now done, and says: "In cultivating the orange for its fruit, the first consideration is to procure the most desirable varieties; those delicious and smooth-rinded oranges we receive from St. Michael's; the Maltese Blood-Oranges, and the Mandarin, are the most desirable, as well as some sweet ones cultivated in France. The first matter of import is the soil; the best is, two parts sandy loam, from the surface of some pasture or healthy common, chopped up with its turf, and used with its lumps the size of large walnuts, and its fine mould, the result of chopping, all mixed together, one part rotten manure, at least a year old, and one part leaf-mould; to a bushel of this compost, add a quarter of a peck of silver, or any coarse, silicious sand—calcareous sand and road sand are injurious—and the mixture will do for all the fruit-trees of the tropical orchard houses as well as for oranges. Convenience potting with a pot too small rather than too large."

NEW PEAS are receiving attention in England. A correspondent of the *London Florist* thus sums up his experience with them: "With regard to early Peas, we do not consider that an earlier than Daniel O'Rourke is requisite, unless a much hardier race can be procured to resist spring frosts; but it is essential that a pea as early as *Daniel O'Rourke*, with the flavor and productiveness of our best *Marrowfat*s, should be procured, and to the attainment of this object we direct the attention of hybridizers. For small, or even large gardens, we recommend the following sorts:—

"First Early—Daniel O'Rourke (with a succession, a fortnight after, for large gardens).

"Second Early—Harrison's Perfection or Glory, Dickson's Favorite.

"Third Crop—Champion of England.

"Fourth Crop—Lord Raglan, Hairs' Dwarf Mammoth, British Queen."

THE BEST ROSES.—A valued correspondent recently gave us a list of the best roses. The following list is by Mr. Lane, one of the largest English growers next to Mr. Rivers: *Hybrid Perpetual Roses*—Deep crimson, the new rose, General Jacqueminot, Géant des Batailles, and Empereur Napoleon III. Of pink and rose-colored varieties, Jules Margottin, Madame Demage, Chereau, Madame de Cambaceres, Madame Hector Jacqueler, Duchess of Norfolk, Comtesse Vaillant, Colonel de Rougemont, and Baronne Heckeren, are among the best. Of Bourbons, Apolline, Aurore de Guise, Francois Henricq, Louis Odier, Sir J. Paxton, and

Souvenir de la Malmaison. Tea-scented, Adam, Canari, Comte de Paris, Devoniansis, Gloire de Dijon, Madame de St. Joseph, Madame Melanie Willemorz, Moiré, Narcisse, Souvenir d'un Ami, and Vicomtesse de Cazes, are all very beautiful.

NEW ROSE.—At the London Exhibition, Messrs. Standish and Noble, Bagshot, sent twelve blooms of a new hybrid perpetual rose, named Victor Trouillard, being of the rich deep shade of color of the old Tuscany, but, like Géant des Batailles, from which it was raised, the color soon fades. It is very dissimilar to existing varieties, particularly of the hybrid perpetual class.

NEW GRAPE.—One ripening with the same degree of heat as the B. Hamburg, and of muscat flavor, is valuable. The following is from the report of the London Pomological Society: "Mr. Snow again furnished a bunch of his new seedling Black Grape, raised from the Black Hamburg fertilized by the White Muscat. The berries are of good size, varying in form from round, like the Hamburg, to oval, like the Muscat. The skin is black, and, though not thick, is tough—a property which enables the fruit to hang and bear carriage well. The flesh is melting, and remarkably rich in flavor, fully charged with the aroma of the Muscat, and with an unusually high perfume. The number of seeds varies from one to two, and in some cases they are wanting. Mr. Snow having expressed a wish that the Society should name his new grape, Mr. Hogg proposed that it should be called Snow's Muscat Hamburg, which was approved of. It ripens as early, and with the same degree of heat, as the Black Hamburg."

THE FEWER SEEDS THE MORE JUICE.—"Watch," says the London *Farmers' Magazine*, "the intelligent vine-grower diligently thinning his grapes. He looks for produce not in seeds or grains (as the corn-grower does), but in pounds of juice. Now, he may obtain the same total quantity of syrup in his globular fruit, either by having a great number of grapes individually small, or a less number of grapes proportionately large. And, irrespective of increased market value per pound for the finer fruit, he has a potent reason for choosing the latter kind of yield, in spite of the additionally arduous labor it involves in repeated thinning. The vital power of the vines, he tells you, is not so much taxed in secreting the watery juice as in maturing the reproductive and life-impregnated seeds; and, as a small grape contains as many seeds as a large one, he husbands the energies and resources of the vines by taking a crop richest in juice and scantiest in seeds, thus realizing the greatest value of produce with the least possible exhaustion of the plants bearing it."

FAR-NIENTE.—It would be difficult to embody the idea of rural *far-niente* more fully than in an extract of a letter from a country gentleman, who unconsciously lets out the following sentiment in a communication we have lately received: "The remains of my evergreens are looking well, except where the borer is *topping them*. I have abandoned them to the laws of nature and to an ever-watchful Providence."

GUTTA PERCHA.—The *Flore des Serres* is justly indignant at the waste and destruction of the gutta percha tree, and calls upon governments to protect posterity, whose knowledge of the article must be, at the present rate of use, only a *souvenir*. The same elegant periodical asserts that the English government has appointed an agent to introduce the cinchona or Peruvian bark tree into their oriental possessions, and that M. Hasakail has been sent on a voyage to Bolivia, to obtain the seed. Baron Humboldt informed us, in an interview we enjoyed with him at Potsdam, in 1850, that there was no kind of danger of the cinchona

becoming extinct, as its range of latitude was great, and there were forests of it of fabulous extent yet untouched. Notwithstanding this fact, its bark, from which quinine is made, has become a monopoly of the Bolivian government, and its price unwarrantably enhanced in this and other markets.

The *Flora des Serres* recommends the French government to plant the gutta percha and cinchona trees in Guyana, where the climate is propitious for both. The plan is a good one.

GOSPEL.—That quaint old writer, Sir Thomas Browne, in his *Urn Burial*, says: "Gravestones tell truth scarce forty years. Generations pass while some trees stand, and old families last not three oaks. To be read by bare inscriptions, to hope for eternity by enigmatical epithets, or first letters of our names, to be studied by antiquaries who we are, and have new names given us like many of the mummies, are cold consolations unto the students of perpetuity, even by everlasting languages."—POTATOES. We saw, on Saturday, says the *Newport News*, fifty potatoes which weighed fifty and a half pounds; they were raised on the farm of J. Prescott Hall, Esq., on some low, swampy land which has but recently been reclaimed. We saw them weighed, and consequently know that the statement is correct; this exceeds anything that we have heard of lately in the potato line.—MICROSCOPIC PHOTOGRAPHS. Some microscopic photographs exhibited at Manchester, England, excited much admiration. One, of the size of a pin's head, when magnified several hundred times, was seen to contain a group of seven portraits of members of the artist's family, the likenesses being admirably distinct. Another microscopic photograph, of still less size, represented a mural tablet, erected to the memory of William Sturgeon, the electrician, by his Manchester friends, in Lonsdale Church. This little tablet covered only 1-900th part of a superficial inch, and contained 680 letters, every one of which could be distinctly seen by the aid of the microscope.—UNCOMMON GROWTH. There is hanging in our office, says the *New Haven Register*, the forked bough of an apple-tree, each part of which measures only twenty-two inches in length, on which there are *one hundred and forty-seven apples*! thicker upon the wood than human ingenuity could possibly affix. They are of an average diameter of two and a half inches, and the weight of the branch is thirteen pounds. It was cut from a tree on the premises of Mr. J. Haley, in the western part of the city, and is called the "Anti-Know-Nothing Apple," from its great yield.—SQUASH. A squash was on view, at Chicago, the other day, weighing one hundred and ninety-two and a half pounds!—THE GARDEN. No land pays a higher rate of interest than the humble, despised garden.—The quantity of vegetables which it can be made to produce almost exceeds belief; and farmers may well open their eyes when told that under good management two acres of a garden will be more profitable than twenty acres of a farm as it is usually conducted. In the vicinity of cities and large towns, the raising of vegetables for market is conducted on a large scale, and is very lucrative, and even the poor man can, by his own labors at odd times, secure an abundance of food for his family, which is as good as money saved as well as earned.—TOWN AND COUNTRY. We wish that any hints we can offer might induce our stalwart young men who are struggling for a livelihood in towns and cities, to go forth into the country, throw off the livery of conventional life, put on the frock, and, with uprolled sleeves, seize themselves the plough, and "greatly independent" live. The prolific bosom of mother earth has enough for all her children who will seek their supplies from her abundances, for giving doth not impoverish her; and scattering her blessings but increases her means.—At the last meeting of the British Pomological Society, Mr. Snow again showed his new Black Grape with a muscat flavor. It was pronounced by all present to be a first-class sort, and it was stated that it ripens satisfactorily in the same house with the Black Hamburgh. It was named Snow's Muscat Hamburgh. A new French grape came from Mr. Rivers. It had the

flavor of the Sweetwater, with a slight tinge of muskiness, and looked as if it would make a good sort for out-of-door culture.—Those who have attended the French markets at a sufficiently early hour, will have probably lamented over the misery of the people who carry off, at a low price, the pea-shells for pottage; but they might reserve their sympathy, and would do so if they had partaken of such soup as, at a very trifling cost, may be prepared from the article. Take three quarts of water in which meat has been boiled the previous day, and place it on the fire, with a small teaspoonful of pepper, and three larger of salt (if the broth has been made with fresh meat), taking care, however, that neither ingredient is predominant. Add the shells of half a peck of peas, and a bundle of herbs, including a good quantity of chives or sweet leeks, and, if possible, a sprig or two of tarragon—a small quantity only. When the pea-shells are sufficiently boiled, pour the whole through a colander, and when the liquor is strained off, pound the pea-shells and herbs in a mortar, returning them to the colander, and rubbing through what will pass easily. Add now a small cupful of peas, two lettuces shred rather small, the more stalky the better, properly blanched, and a couple of sprigs of mint, and you will have a soup which would not disgrace any table, especially if a little fried bread is added, and an ounce of white sugar. If a thick soup is preferred, a little flour and butter, or other thickening, must be used. It is not necessary to have anything stronger than common broth as the foundation.—*Irish Moss.* The value of Irish moss collected at Scituate, Mass., in 1855, is said to have amounted to \$4,855.—Seeds of weeds should be carefully prevented from ripening. Thistles produce an increase of one hundred and fifty fold. If plants are shedding their seeds at the time they are taken away, the very hoeing insures their safe plantation, while, if left, they might have flown away to a distance. The practice of taking out those and other pests, and throwing them in the road just as the seeds are ready to be distributed by the wind, is a most thoughtless process; they are blown back to the opened soil, or to neighboring grounds, and, instead of being extirpated, are very often multiplied.—A mode of estimating the value of milk, is by the use of an ingenious new machine called a lactoscope, invented in Paris. It consists of two tubes, one of which may be pushed into the other like the joints of a telescope, and the end of each tube is closed with glass, so that when milk is poured into the outer tube by a small opening on the side, by pushing in the inner tube a layer of milk of any thickness may be obtained. The apparatus is placed on a stand, the value of the milk is estimated by the thickness of the layer of it through which the light of a small wax taper, at a fixed distance, can be observed, the value of the milk being in the inverse ratio of the transparency; the larger the amount of fat present, the greater of course will be the opacity. The thickness of the layer of milk is measured by a scale on the instrument, and a table sold with it shows the percentage of cream to which it corresponds.—*The London Athenæum*, in reviewing the new book, "Salad for the Social," says, with severity: "The author appears to be, in fact, a pair of scissors, with this difference in favor of the scissors—that he has no points of his own.—A writer in *Fraser's Magazine* asserts: "I am quite sure that every man has a much better chance of passing through life comfortably, who can quit a city for a country life; as a nation which depopulates its rural districts to over-populate its commercial, will some day learn to its cost."—Jonah's gourd has been variously supposed to have been ivy, but it neither grows up in a night, nor is consumed by a worm. Augustine called it a gourd, and accused Jerome of heresy for calling it ivy; yet they both seem to have been wrong. It was, more probably, the kiki of the Egyptians, a plant of the same family as ricinus, or castor-oil; this plant is of rapid growth, and has such large leaves, that the people of the East plant it before their shops for the sake of its shade.—Cinnamon was so much esteemed by the ancients, that Cleopatra carried it into her sepulchre with her jewels; it was kept, in wooden boxes, among the rarities of kings, and only employed for unguents, and on great occasions.

A FRENCH CATALOGUE of D. Danvesse, Orleans, France, just laid on our table, contains a great variety, but, as is too usual with these French articles, the prices are enormously high; it would seem to be a retail list of no use in America, and we advise the sender to save his postage, and us any further paragraph.

Not so with the Catalogue of *André Leroy's Nurseries*, at Angers, France, the source whence is derived such quantities of seedling trees that our periodicals are constantly discouraging of. The sole agent in America is Mons. F. A. Brugière, 138 Pearl Street, New York, by writing to whom you may know how to buy trees in quantity at the price of beets or carrots!

ANSWERS TO CORRESPONDENTS.—(CALLA.) Some manuscripts were lost out of our wagon on its way to the printer's—a most unusual occurrence; and, amidst much else that was useful, all our elaborate answers to CALLA's numerous questions, and several valued communications, have been deposited in the road. She will have to excuse us, for the questions were lost with the answers, not more to her regret than our own.

INDISPOSITION, AND ABSENCE in search of health, must serve, with regret, for many apparent neglects of valued correspondents this month.

WM. STEWART & SONS, of Quincy, Illinois, have forwarded us a very clever "condensed catalogue of fruit and ornamental trees, &c. &c."

STRAWBERRY PLANTS.—We are indebted to several valued correspondents for new strawberry plants for experimental culture, of which reports will be made in due time. Mr. Saul, of Washington, Mr. Thorburn, of Newark, Mr. Mish, of Harrisburg, Mr. Hooker, of Rochester, will accept our thanks. The Hooker's seedling notice, in *small type*, in our last number, should be referred to by those planting strawberries.

BROWN HILL POTATOES.—Mr. Bulkley's Stone Hills, which we promised to report upon, have produced a wonderfully fine crop of *large and excellent* potatoes, never exceeded by any in our experience.

MR. J. R. GARDNER, in an early number.

(A. B. C.) It is polite to inclose a stamp when you request an answer from a correspondent on business exclusively your own.

TRANSLATIONS FROM THE GERMAN.—Some valuable translations from German periodicals, shared the fate of CALLA's questions and answers, very much to our disappointment. We hope to hear from the translator again.

"STANLEY'S EARLY" APPLE.—Fine specimens of this apple, known in Ohio, where it originated, with another kind we do not know, have been sent us by Mr. James S. Lippincott, of Haddon Lodge, near Haddonfield, N. J. The Stanley's Early may safely be added to any catalogue as "excellent." Mr. L.'s complimentary letter is appreciated.

ALBANY, N. Y.

MR. JAY SMITH: Will you please confer a favor on numerous readers of your publication, by giving, in your next number, a description of the manner of making cold frames, to be used for the purpose of preserving cabbage, cauliflower, and other plants, through the winter? And also, whether you think that tomato and pepper plants could be preserved in the same way—that is, in cold frames?

Truly,

WM. A. BARTLETT.

A few boards, nailed together, of any required length, and about five feet wide, will make a convenient frame, the back being about eighteen inches high, and the front nine. Shutters to cover them may be of half-inch boards, nailed together so as to be about three feet

wide. They may be kept entirely covered in frosty weather, lifting or taking them off on fine days. The sides of the frame may be better protected with a bank of soil.

Tomatoes and peppers cannot be preserved in cold frames.

ROSEVILLE, O.

J. JAY SMITH: Please answer the following inquiries. Allow me to say, that your magazine is a very welcome visitor here. Though my *conservatism* was slightly disturbed by the change of editors, I was soon perfectly satisfied.

What are the relative merits of the Manetti, Michigan, and Boursalt Roses as stocks, on which to bud the Hybrid Perpetuals? (1.)

Would it do to take cuttings, in November or December, from strong Manetti stocks, budded this fall? (2.)

Is it a good practice, in light soils or any soil, to earth-up young trees in the beds—say in November, so as to cover the bud during winter? (3.)

Where can Mr. Coxe's book on *Fruits* be obtained, and at what price? (4.)

Very respectfully,

R. J. BLACK.

(1.) They all make good stocks. We prefer them in the order named; besides, the Manetti is more easily raised.

(2.) Cuttings will do well as late as November, but better in October.

(3.) Yes.

(4.) Coxe's book on *Fruits* can only be obtained at second-hand book-stores, auctions, &c. It is out of print.

THE MASSACHUSETTS HORTICULTURAL SOCIETY held an exhibition at Music Hall, the middle of last month, which gave great satisfaction to its numerous attendants, and a large amount of prizes was distributed; one of forty dollars, to Miss Ellen M. Harris, for the best floral design. The evening exhibitions were highly successful; the galleries crowded by ladies looking at the fruits and flowers, and listening to the Germania Band. Admiration seems to have been the order of the day from all who witnessed this display of a most enterprising and knowing Society.

THE PENNSYLVANIA HORTICULTURAL SOCIETY.—The twenty-eighth annual exhibition was held on the 16th, 17th, and 18th of September. The city placed one of the public squares at the Society's disposal; over this square the Society erected an immense tent made for the occasion, and made the arrangements for a brilliant display with a profuse liberality.

Since the Society commenced offering premiums for collections of plants as well as fruits and vegetables, now three years ago, the attractions of the exhibitions have annually increased. "Bare-legged" plants are rarities, and, in their place, well cultivated specimens of the choicer kinds show to greater advantage.

The premium of \$20, for the best twenty plants, was awarded to Mr. Pollock, gr. to James Dundas, Esq. Various kinds of Allamandas were conspicuous in this collection, and are very useful summer blooming plants. The only striking novelty in this collection was the *Philodendron pertusum*—a plant of the Arum family, with large, leathery leaves, having at the ends of their lobes the same shorn-off appearance those of the Tulip-tree possess. In Mr. Robertson's collection, *Begonia xanthina*, with numerous yellow blossoms, was an object of great attraction.

An interesting feature of the exhibition was the variegated plants, several collections being shown. The variegated Hydrangea was, perhaps, the most conspicuous. In Mr. Buist's collection, we particularly noticed a very handsome *Dracena*; *D. Nobilis*, with beautiful veined foliage.

A collection of sixty-five species of coniferous plants in pots, from Mr. Sherwood, afforded

a chance to many of becoming acquainted with rare kinds; and a bouquet design by Mr. Raabe, of 150 species of grasses, all very neatly named, showed how beautifully so dry a subject as abstract botany can be combined with art by a person of fine taste.

A display of Monthly Carnations, now getting deservedly popular, as their cultivation becomes understood, was shown, in fine order, by Mr. James Thomas, from Mr. Withams.

Perpetual blooming plants should be freely encouraged, and, in this connection, two roses, by Mr. Pentland, of Baltimore, were much admired. One, *Beauty of Green Mount*, a noisette, with the rich crimson of *Souvenir d'Anselme*, with more numerous clustered flowers. The other, with the pure white of *Aimée Vibert*, on the vigorous growth of a *Jaune des Prez*, also a Noisette, and named *Woodland Margaret*. Of the numerous collections of roses, a rather new American seedling, *Isabella Gray*, was the chief attraction. It is the yellowest and sweetest of the Sweet Yellow Tea or Noisette Roses.

There were several new competitors on the Dahlia list—*Grand Duke*, lilac; *Sir F. Bathurst*, plum; *Summit of Perfection*, maroon; *Beauty of the Grove*, bronze, with purple tip; *Ring-Leader*, plum; *Napalese Chief*, crimson, tipped with pink; and *Mrs. Wentworth*, lilac, we noted as about the best.

Of the miscellaneous plants, there was little new. *Weigela amabilis*, valuable as a continual bloomer, *Phlox criterion*, a striped variety of *Phlox Drummondii*, and *Lantana lutea* superba, with yellow flowers, were most attractive.

The fruit department was well represented. Fine contributions, coming from Boston, Lancaster, Moorestown, and other distant places. Mr. Lasenby's Black Hamburg Grapes, the bunches weighing nine pounds and over, were better colored than usual.

Most of the new grapes were on exhibition. The Concord (we understood, raised under glass) were about half the size of *Isabellas* hanging beside them, and, we were informed, scarcely equal to them in flavor. It is said to be valuable in the North, by being earlier than that kind.

The competition for the vegetable prizes was particularly brisk, room being with difficulty provided. It is gratifying to find, by the increased number of competitors, and the superior qualities of the productions exhibited, that gardeners and their employers are alive to their interests, in supporting the Society; the one by the honor, if not the profit, accruing to them; the other by the increased stimulus given to the gardener to aim at excellence in all things.

THE LONDON HORTICULTURAL SOCIETY'S GARDENS, which were about to be sold to meet the debts of the Society, are to be preserved, and the debts provided for by donations, new fellows, reduced expenditures, resignation of officials, and a contract to keep the gardens up for £1,200 per annum. All lovers of horticulture will rejoice to hear this.

THE SCIENTIFIC CONVENTION, at Albany, has done itself great credit at its late meeting, and in the opinion of our readers, did nothing of more general interest than to recommend the government to take measures to protect the great California trees. This, we trust, will be done; they are not numerous, and are unique. Late reports from Europe are discouraging as to their healthy growth abroad—another inducement to protect what we have.

EXHIBITIONS.—The whole country is alive, this month, with exhibitions. There will be an amount of information thus disseminated that no one man can appreciate. To all we say, make your efforts at utility and beauty, so as to benefit the greatest numbers.

The Orchard-House.—We are indebted to Mr. Thomas Rivers, of England, for the fourth edition of his *Orchard-House, or the Cultivation of Fruit-Trees in Pots under Glass*, London, 1856, from which we shall make extracts for the benefit of readers.

VALUABLE CROP.—The crop of blackberries on Long Island was sold, in New York, for about \$5,000. The groceries paid 6½ cents per quart, and, at this price, some persons received for blackberries sold from their land, more than the land itself would bring if put up for sale.

The old Stuyvesant Pear-tree, in New York, aged one hundred years, bore a bushel of fruit this season.

NECTARINES.—Mr. Caleb Cope will receive our thanks for some Stanwick Nectarines, every way what they ought to be, and creditable to the grower. He has four trees, and fine crops. Accompanying them were some very good Red Romans. We expect, after the entire success of Mr. Hunnewell and Mr. Cope, to hear of success elsewhere.

SAMUEL MILLER, of Calmdale, near Lebanon, Penna., sends us a new seedling grape about the size and appearance of the Isabella, and, we think, as good. He says:—

"This seedling was raised from seed sent me by Mr. Longworth, of Cincinnati, Ohio, five years ago. The vine bore about a dozen bunches last year; this season it has had, perhaps, fifty or sixty bunches. The vine has been perfectly hardy since its infancy; a strong grower, and will, with good cultivation, far exceed those sent you, in my opinion, as the vine has thus far been sadly neglected.

"You can best judge of its quality, and whether it is worthy of a place among the good grapes. (It is.—Ed.) In the same box you will find a bunch of grapes from a friend.

Yours, truly,

SAMUEL MILLER."

Mr. Mish, of the same town, sends a bunch of Longworth's Ohio, or Cigar Box, and some very *fine* Beurré Diel pears. The grape we do not think much of for the table; the pears, excellent. A new white seedling grape, from Mr. Brandegee, is excellent. The raiser, Wm. Brochsbank, Hudson, N. Y.

BEARDLESS BARLEY.—J. W. Briggs, West Macedon, N. Y., sends us specimens of beardless barley, and will do the same to all who inclose a stamp.

NEW BRIGHTON, STATEN ISLAND, Sept. 4, 1856.

J. JAY SMITH, Esq.—DEAR SIR: Some time ago, a copy of my book, "The Grape Growers' Guide," was sent to Dr. Lindley, the editor of the London *Gardeners' Chronicle*, which he has noticed somewhat favorably, and in that notice he has hit upon, perhaps, the two most philosophical points, considered in a prospective view, both of which are in connection with mildew on the grape-vine. The first is the recommendation to improve our natives by hybridization with the European kinds, so as to gain the better quality of the latter, and yet retain the hardy constitution of the former. This he entirely agrees with, and advises the Eastern vineyard cultivators to accept as a probable means of extirpating the destructive pest that is now destroying their crops. If we have given to Europe an idea that shall ultimately be successful, we shall be gratified with the service done, and hope, in the mean time, that it may so turn out.

With regard to mildew as it now exists there, and the kind that we have all along been troubled with in out-door culture, it is presumed that both are identical. This the doctor denies in the following language: "In connection with the present subject, it is not a little curious to see how the American gardeners are in a complete state of confusion as to what is the true vine mildew, arising from the attack of oidium. Mr. C. says there are two diseases in the States, one appearing in the form of brown spots, which eat through the leaves; the other like a 'fine and delicate hoary mouldiness.' The first he supposes to be European mildew, while his account shows unmistakably that it is the second. Let us hope that

when Mr. Chorlton sees this remark, he will make the American public aware of the mistake." Now, in my description of this first, it is stated that the earliest indications of it are these brown spots, and that "afterwards are seen small white patches of the soft and delicate fungus attached to the under side of the leaf." Further: "These white patches are the fructification of the parasite." As it appears to me, he has only read the description so far as the first indications are mentioned, and then skips on to the next paragraph, which speaks of the "fine and delicate hoary mouldiness of the second kind." As to this part of the matter, both might have passed by the same words, but I was very exact in trying to explain, so far as words could do, the minute differences, and was particular in stating that the first sort "penetrates to the berries by the rhizoma, or spawa, and makes them in appearance like a diseased potato in the first stage of infection;" while the second lives entirely upon the epidermis (which it destroys), precreates simply by the increase of cells laterally, and is found on the upper side of the leaf, thus showing that there is a higher organisation in the former than the latter. It is possible that we may be in error, but I would say, with all due deference to his superior abilities, that Dr. Lindley has failed to show it. The very sensible article by Mr. J. Flak Allen, of Massachusetts, on this subject, in the August number of the *Horticulturist*, would seem to contradict the doctor's assertion, for your correspondent there states, that, "in the Agricultural Report of the Patent Office for the year 1883, page 311, there may be found an engraved illustration of this mildew fungus. It appears in a communication to the State Department from Nicholas Pike, Consul of the United States at Oporto. This is a correct representation of the American mildew, and leaves no room for doubt as to the identity of the two species." And further on: "That in the short space of one day, the under side of the leaf will be covered." This illustration I have seen, and agree with Mr. Allen. It is also sustained by the evidence of other close observers, and, although the wording of the communication might have been more minute and scientific, there is sufficient in it to show that there is little or no difference. Here is certainly evidence that what I have supposed to be European mildew is so, and also, that it is the same which we are troubled with during the months of July and August. If Dr. Lindley had been more comprehensive in his explanation, and noticed the peculiarities with sufficient attention, it is very probable that we should have received some benefit from his remarks; as it is, there is nothing left for us but to think that he did not read the description with sufficient attention.

Respectfully yours,

WM. CHORLTON.

J. JAY SMITH, Esq.—An article is going the rounds (as quoted from the *California Farmer*), which expresses the opinion that "coffee will be grown in the State of California, for their own consumption, and also for exportation." It is well to put so erroneous an idea at rest, by stating, that in no part of the State of California will the coffee-tree survive the winter. It is among the most sensitive of all trees to cold, and there is no locality in our country where it could be cultivated, except on the extreme point of Florida. It is not cultivated in Mexico, and, owing to the general altitude of that tropical country, it would only survive on a narrow strip of land bordering on each ocean, and in some parts of Yucatan.

WM. R. PRINCE.

TEMPERANCE AND THE VINE.—To J. J. SMITH, Esq.—DEAR SIR: In your May number, I observe that my friend, Jeffreys (may he live a thousand years, and his shadow never be less), in his "Critique," has doubts about our native wine being an aid to the temperance cause, and cites the abuse of it as a reason. Now this is scarcely fair, for they have very sour cider in his vicinity, and his neighbors should be excused for an extra indulgence, when they get a good glass of native wine.

If it is possible for us to become a strictly temperate people, then Jeffreys is right, and I

am wrong. But otherwise, then the least hurtful potations we can introduce and make customary, the better. I sincerely believe, from what I have already seen, that our native wines will meet this object. This is our experience here, and the fact is fully sustained by all who have visited the wine countries of Europe. Quite an impartial opinion, you will say, coming from a wine-grower!! It is not every doctor, however, that likes to take his own medicine, and I confess, for my part, that I prefer a cup of buttermilk at dinner, in summer, to the best glass of wine that ever sparkled on the board. But tastes differ, and many would prefer the wine.

In looking at this matter in all its bearings, I am disposed to adopt the views of honest *Father Mulrooney*, expressed, some forty years ago, to his flock in a western town.

The good man had a hard set to deal with—a frolicking, rollicking, drinking congregation as could be found in the suburbs of any city, and they fairly worried the life out of him, as he said. At last, after a strong temperance exhortation, which he feared would have no effect, he closed as follows: "Now, I am afraid all this admonition will be thrown away on you hardened sinners. You know you have been vexing the very life out of me, you *haythen*, and sorra the bit do I believe you will heed me; so, if you *will* drink, and make brute bastes of yourselves, go to *Barney Coyle's*; he is a dacent lad, and keeps the best liquors in the town."

Let us apply this to the native wine.

R. BUCHANAN.

Cincinnati, August 19, 1856.

THE HONEY PEACH OF CHINA.—For the history and a drawing of this fruit I refer to the first volume of the *Horticulturist*, page 382. I obtained from my friend Mr. Chas. Downing, about three years ago, cuttings from the seedlings, and on the 30th July last, succeeded in maturing three on the tree; it corresponds very nearly with the plate, with the exception it has a sharper point, and is not quite so large, which I attribute to the excessive drought we have labored under this summer, scarcely any of our peaches being half the ordinary size; the tree, or more properly speaking, the bush, is hardly thirty inches high; but I think with ordinary seasons the tree as well as fruit will be much larger. Around the pit the flesh has the appearance of a very ripe fig, half dried, and is as distinct and marked in its taste as honey itself; one or two would be as many as any person would desire to eat at one time. I flatter myself I have been the first to fruit it in America. I exhibited it on yesterday to the fruit committee of our State Agricultural Society; all agreed it was the most remarkable, distinct, and richest peach they ever tasted. I consider now that with my two varieties, the Chinese cling and honey peach, I have the rarest and the best peaches on the continent.

HENRY LYONS.

Laurel Park, Columbia, S. C., August 2, 1856.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The stated meeting of this Society occurred, at the Concert Hall, on Tuesday evening, August 19, 1856, Dr. W. D. Brinckle in the chair. Premiums were awarded as follows, viz:—Committee on Plants and Flowers. *Collection of twelve*—to John Pollock, gr. to J. Dundas; for the second to Chas. Sutherland, gr. to J. Anspach. *Collection of six*—to Mark Hill, gr. to M. W. Baldwin. *Specimen Plant*—to J. Pollock; second to C. Sutherland. *Table Design*—second to J. J. Habermehl. *Basket*—the same; second to Mark Hill. *Bouquets*—best pair to Henry A. Dreer; second to J. J. Habermehl. *New Plant*—three dollars, for a fine Allamanda Sieboldii, first time shown, to J. Pollock; one dollar, for Achimenes Ambrosie Verchaffeltii, pretty, to Robert Buist. *Special*—two dollars to H. A. Dreer, for a fine basket; to R. Kilvington, for two table designs; to J. J. Habermehl, for fine German Asters.

Committee on Fruit. *Grapes*—three bunches of a black variety, to J. Riley, Asylum; second, William Grassie, gr. to J. Tucker; for three bunches of white to J. Riley; second to Chas. Sutherland. *Plums*, twenty-four specimens of six varieties—to J. McLaughlin, gr. to J. B. Baxter. *Pears*—the same. *Apples*, best three varieties—to S. W. Noble, of Montgomery Co. *Special Premiums* of one dollar to G. W. Earle, for plums; to J. Lindsay, for Bolmar's Washington Plums; to M. Hill, for two new varieties of watermelons.

Committee on Vegetables. For the best display, by a market gardener, to A. L. Felten.

On motion, ordered that the President appoint delegates to attend the sixth session of the American Pomological Society, to be held at Rochester, New York, 26th of September.

Ordered, that the thanks of the Society be tendered to Dr. Frederick Leclaire, an honorary member, for his treatise on the Cure of Cholera Asiatica.

SEVERAL FINE PLANTS WERE EXHIBITED.—*Plants* from James Dundas's gardener.

From M. W. Baldwin's. The new *Veronica Imperial Blue*.

From John Lambert's. Fine German *Asters*.

By Robert Bulst. *New*—*Achimenes Ambrosae Verchaffeltii*, a white, striped with violet and yellow eye, very pretty cut flowers of *Allamanda grandiflora*; with many designs for baskets and bouquets from various members.

Pratt, &c.—By Saml. W. Noble.

By Robert Bulst.

By A. L. Felten.

By Mark Hill. *Melons*, Odell's large white and orange.

Calendar of Operations.

OCTOBER.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—Lifting and storing away the winter root crops will require attention towards the end of the month. Beet, salsify; carrots, parsnips, &c., keep best covered with sand in a dry cellar, and are at all times of easy access. Choose a dry day for lifting, and use precaution not to break the roots more than possible, especially with the two first mentioned; the leaves of these should not be cut so close as to wound the root. Parsnips are frequently left in the ground, and taken up as wanted, but, where the winters are long and severe, they should be housed.

Horse-radish may now be taken up and replanted, the largest roots stored for use; they will keep till wanted, if treated as the others.

Spinach should be thinned out, that the plants may have room to extend; they will keep over winter better when thus treated, than when allowed to crowd and grow up weakly. Turnips must also be thinned, if good bulbs are expected.

Mushrooms.—Many persons who have a fancy for these are deterred from attempting to cultivate them from the supposed difficulty. They are so easily raised, that any one having the convenience of a dry cellar may have them in profusion. The requisites are, short stable manure, and good mushroom spawn. The manure must be prepared by being frequently turned, so as to prevent excessive heating, and the bed made from six to sixteen inches in thickness, according to the temperature that can be maintained. Where the temperature can be kept up to 60°, the former thickness will be sufficient. The latter thickness will generate sufficient warmth of itself. Insert the spawn when the heat is about 80°, and cover with two inches of soil, firmly beaten, all over the bed. A covering of straw will be necessary should the heat decline. Under the staging of a greenhouse, if protected from the drippings of the pots, or in large pots or boxes, mushrooms may be grown without much trouble or expense.

FRUIT.—*Raspberry* plantations may be made this month; the old plants should be pruned and got in readiness for laying down against winter.

Strawberries may yet be planted on dry grounds; on strong, undrained lands, they will be thrown on the surface by the action of frost, unless covered with tan bark or an equivalent; there is no better mode of arranging than planting in rows three feet apart, and twelve or sixteen inches between the plants. Those in pots must now be protected from heavy rains, and exposed to the sun; it is important that the buds be perfected; the runners ought to be kept down, both on those in pots and in the ground.

Grapes.—These will not require much attention at present; the side-shoots and laterals may be shortened a little previous to the regular winter pruning. Do not cut the fruit too soon. Many prefer the *Isabella Grape* after it has been exposed to slight frost.

GREENHOUSE.—In arranging the plants in their winter quarters, those of more tender nature should be placed at the warmest end of the house; these will include *torennias*, *ixoras*, *lesche-naulias*, *stepanotis*, *cypripediums*, &c.; and further to insure their safe keeping, they should receive no more water than will barely keep them from wilting. See that the drainage is perfect; this is a great point with all potted plants at this season. Young, growing plants for early spring flowering, as *fuchsias*, *calceolarias*, *cinerarias*, *pelargoniums*, and similar articles, should also have a place in the warmest portion of the house, and near the glass. The front shelf is a good situation for these. Temporary shelves, fixed near the roof, at any convenient point of its surface, will be found useful in winter, and present a most favorable position for young plants. If not over a foot in width, such a shelf will not materially interfere with the growth of plants on the lower staging. *Azaleas* and *camellias* that indicate early flowering, may also be placed near the heat, to hasten them into flower. The coldest

end of the house (that is, the end furthest from the source of heat, which can be kept a few degrees colder by admitting more air at that point), will be filled with the main plants of camellias and azaleas, with acacias, heaths, epacris, &c. New Holland plants—boronias, polygalas, eutaxias, daphnes, and others—will occupy an intermediate position. Stock plants of verbenas, heliotropes, &c., can be stowed on the front or side shelves. The less growth these make at this time the easier they are kept; keep them on short allowance of water. Keep the house aired a little at night, unless during storms or indication of frost; water early in the morning, and have the house dry towards evening. Dispense with all kind of shading; the object now is, to harden and ripen the plants, that they may stand the effects of winter.

FLOWER GARDEN.—Bulbs of tulips, hyacinths, narcissus, &c., should be planted now; choose rich grounds, and cover at least two inches. A handful of dry sand below each bulb will facilitate their rooting, and a slight covering of manure by and by, will protect them during winter.

Hollyhocks.—If not already attended to, the seedlings may now be transplanted into borders for flowering next summer. A deep, rich soil will give strong plants and profusion of flowers. Few plants produce so striking an effect in masses as the hollyhock. The improved varieties are as large and double as dahlias, and the colors much superior, both in depth and variety.

Violets, for winter flowers, may be transplanted into frames; the frames should be set in an elevated dry site, and the soil well broken up and pulverized. Lift the plants carefully, and press the soil firmly around them; finish, by giving a thorough watering and shade from sun for a few days; they will start to grow at once, if the frame is kept rather close for a week; afterwards, admit air gradually, and ultimately remove the glass altogether until frost.

Mignonette, in pots, should be thinned to four or five plants to a pot. Be careful in the application of water as the days shorten; they are liable to decay if too freely watered during cold, dull weather.

Alterations, such as making flower-beds, repairing, or laying down box edgings, gravelling walks, &c., can be done much more advantageously now than in the spring; the soil is in good working condition, and it is generally a season of more leisure.

PLEASURE GROUND AND SHRUBBERY.—Planting deciduous trees should be proceeded with by the middle of the month, or as soon as possible after the fall of the leaves. Evergreens should be left until April. It is too late for them to make sufficient roots to supply their large evaporating surfaces, unless they are removed with plenty of roots.

The arranging of ornamental trees should be well studied before commencing to plant. A few studies for reflection may be enumerated.

1. Plant evergreens with a view of forming a distinct winter scenery when deciduous trees are leafless; principally effected by keeping them somewhat distinct, and arranging the various shades of green which such trees present.

2. With reference to the development of individual or combined beauty. The former, by placing single specimens in prominent situations; and the latter, twofold; by variety of foliage alone, and, secondly, by variety of outline, or general habit of growth.

3. The gradual blending of evergreen and deciduous trees into a whole, so as to avoid violent contrasts, by using trees having both properties combined, as the European and American larches, and deciduous cypress.

4. Giving depth to limited views by marginal undulations, and increasing the effect by placing heavy dark-colored foliage in the recesses, as the horsechestnut, Norway and sycamore maples; and light colored or small foliaged trees in front, as the birches, eleagnus, &c.

5. An arrangement with reference to spring and early summer flowering trees, as the scarlet maple, wild cherry, Judas-tree, catalpa, paulownia, halesia, laburnum, locust, horsechestnuts, chionanthus, crataegus, koelreuteria, magnolias, &c.

6. Contrasting the various shades and tints of foliage before the fall of the leaves in autumn. Scarlet and sugar-maples, sweet and sour gums, tulip-tree, sassafras, bitter-nut, and other hickories, scarlet oak, and dogwood, are some of the most prominent in this respect.

7. Imitation of natural scenery by planting at irregular distances, especially the effect of two or more planted three or four feet apart; the effect of two or three stems apparently from one root is also worthy of notice.

Lastly, and of much importance, filling up the outskirts with thick shrubbery, the better to define the plantations, and form a decided distinction between them and open spaces of lawn.

These are only a few of the many features that tree planters ought to have in view, a knowledge of which is indispensably essential to the development of landscape gardening.



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MANGOSTEEN.

THE STATE OF TEXAS,
COUNTY OF _____

It is a well-known theorem that if f is a function of n variables, $f \in C^1$, then f is constant on the unit sphere S^{n-1} if and only if $\nabla f = 0$ on S^{n-1} . In this paper, we consider the problem of finding functions f such that $\nabla f = 0$ on S^{n-1} and f is not constant on S^{n-1} . We show that such functions exist and are unique up to a constant. We also show that such functions are harmonic on S^{n-1} .

The Downing Monument.

IT will be vividly remembered by the readers of this periodical, how sincerely horticulturists mourned the death of DOWNING. We all felt as if a friend and brother had left us; even those who had not entirely appreciated the bright, particular star that rose on the heretofore barren heath of our garden literature, soon felt that a luminous planet had set; its light, however, still shines, and, while gardening is an elegant pursuit among us, which it will always be, all thinking and reading men will refer to DOWNING as the pioneer mind of America.



Much has been said regarding him, and much that is true continues to be said, but there is one point that is left us to say, in introducing to the pages of his own journal the engraving of the monument, which testifies the affection of the many who contributed to its erection: *DOWNING taught us how to live.* When he commenced his career of authorship, the fine old domestic country establishments which the American Revolution had seen, had mostly fallen into decay with the decadence of their owners; the large properties on which so many wealthy planters and farmers had lived in hospitable munificence and European grandeur, had been divided by the abrogation of the law of entail, and other causes. From the commencement of this century, one example after another of the old style of living, which we may characterize as "the four in hand," the style of the "Republican court," paled before the paternal divisions of land, particularly at the North. The democratic feeling took possession of the country, happily for its permanent prosperity. Country style faded away; people looked around them, in their country

houses, on mere farms; to produce the necessities of life, was the countryman's ambition. To *embellish* his home, and make it a desirable residence for his family and his successors, seemed to be no part of his duty or pleasure. To say, "a farmer," was equivalent to expressing awkwardness of manners, roughness of speech and dress, and almost ignorance. The citizen went to the country to board in the farmer's family, in summer, or to dance at Ballston or Saratoga; between the two classes there was no fellow feeling, and, with a few stately exceptions in the several divisions of our country, there was, properly speaking, no elegant rural

life. DOWNING now began to impress people with an idea that there were higher enjoyments to be found in the country than raising corn and poultry, which could be *added* to the attractions of rural life. A taste for horticulture was soon implanted in the rural population; their houses were made comfortable and elegant; glass structures brought fruit and flowers; the study of scenery, and the proper arrangement of the grounds, followed as a matter of course. In his books, and every month in his periodical, our rural Socrates gave us new inducements and instructions regarding worthy objects to expend our money, time, and taste, upon. Before his untimely end, ladies and gentlemen had ceased to talk exclusively of "taste and the musical glasses," and had found in trees, rocks, waterfalls, gardens, and scenery, something else to admire than curtains and Parisian furniture. It was truly surprising to discover that the same income that must be spent on a lot of twenty-five feet by an hundred in the city, would, in a rural neighborhood, *with knowledge* of country things, enable the expender to have a lawn and pleasure-ground, a horse, a cow, a plentiful vegetable and fruit garden, and, perhaps, a greenhouse or grapery, with their never-ending pleasures.

The "revolution" was rapid in its progress; villas grew up in every section; cities were voted a bore by a large class; we can now visit country residents who do not sit down to dinner without a coat on their backs, and we find books and pictures, billiards, and rare flower-beds, where but yesterday were weeds and stable-yards—in the country.

That that revolution came in our time, we mainly owe to the individual to whom we have just erected a suitable memento, the tribute of our just appreciation to his merits, genius, and originality. There it stands, in the grounds he was so actively employed in embellishing, in Washington, at the time of his decease—a shrine, where the lover of his country may make a pilgrimage, and shed a tear for all future time—an evidence that he was appreciated by his contemporaries, a monument less ambitious than our attempt to commemorate the fame of Washington, but, *in its own line*, pointing to the works of a most useful individual. Long may it stand a memento of a country's gratitude to its able teacher; long may the moistened eyes which read the following inscriptions, read the lessons he instilled; and, so long as it is visited in the proper spirit, so long as his lessons are remembered, so long shall our country be far removed from that semi-barbarism which threatened the inland dweller when DOWNING's spirit roused itself, and threw off the apathy to the love of the beautiful, which was fast overtaking us.

The monument was designed by Calvert Vaux, Esq., Architect, and Downing's partner at the time of his death, and is given above, with the inscriptions as kindly furnished by himself.

THE INSCRIPTIONS.

This vase was erected, by his friends, in memory of Andrew Jackson Downing, who died July 28, 1852, aged 37 years.

He was born, and lived, and died, upon the Hudson River. His life was devoted to the improvement of the national taste in rural art, an office for which his genius, and the natural beauty amidst which he lived, had fully endowed him. His success was as great as his genius, and for the death of few public men was public grief ever more sincere.

When these grounds were proposed, he was at once called to design them, but, before they were completed, he perished in the wreck of the steamer Henry Clay.

His mind was singularly just, penetrating, and original; his manners were calm, reserved, and courteous. His personal memory belongs to the friends who loved him, his fame to the country which honored and laments him.

Upon the reverse:—

"The taste of one individual, as well as that of a nation, will be in direct proportion to the profound sensibility with which he perceives the beautiful in natural scenery."

"Open wide, therefore, the doors of your libraries and picture-galleries, all ye true Republicans! Build halls where knowledge shall be freely diffused among men, and not shut up within the narrow walls of narrower institutions. Plant spacious parks in your cities, and unloose their gates as wide as the gates of morning, to the whole people."—*Downing's Rural Essays.*

—
 "Weep no more,
 For Lycidas your sorrow is not dead,
 Sunk though he be beneath the watery floor,
 So sinks the day-star in the ocean bed.
 And yet, anon, repairs his drooping head,
 And tricks his beams, and with new spangled ore
 Flames in the forehead of the morning sky;
 So Lycidas sunk low, but mounted high
 Through the dear might of *Him* that walked the waves."

—
 I wake, I rise,
 "I climb the hill; from end to end
 Of all the landscape underneath,
 I find no place that does not breathe
 Some gracious memory of my friend."
 "Tis held that sorrow makes us wise;
 Yet how much wisdom sleeps with thee,
 Which not alone had guided me,
 But served the seasons that may rise!"
 "And doubtless unto thee is given
 A life that bears immortal fruit
 In such great offices as suit
 The full-grown energies of Heaven."
 "And love will last as pure and whole
 As when he loved me here in time,
 And, at the spiritual prime,
 Rewaken with the dawning soul."

—
 For ourselves, we never liked Washington as the *locale* for the erection of this monument. Some spot on the Hudson River, where he labored, lived, and died, would better have comported with his own wishes and the public expectation; but it has been otherwise decided by the able committee, and we acquiesce, thankful that, unlike many good intentions, it has not utterly failed at last.

We add, with regret, that a late hasty inspection of the grounds of the Smithsonian Institute, where the monument now stands, exhibited them in a neglected state, to the shame of the Government as well as of the Regents.

THE MANGOSTEEN, OR MANGOSTAN.*

THIS extraordinary fruit is just now attracting considerable attention in England, in consequence of its having been fruited successfully at Syon House, the seat of the Duke of Northumberland, where at the same time it bore flowers, and the ripe and ripening fruit, as represented in the drawing.

The Mangosteen has long been celebrated by travellers as the best known fruit, and efforts have been frequently made to familiarize it to other countries than the Malay Peninsula, and islands to the eastward of Bengal, but, till now, in vain. The fruit is of a spherical form, of the size of a small orange; when young, it is of a reddish-green color; when ripe, of a reddish-brown; and, when old, of a

* See Frontispiece.

chestnut-brown color. Its succulent rind is nearly the fourth of an inch in thickness, containing a very powerful astringent juice, and, in wet weather, exuding a yellow gum, which is a variety of Gamboge. On removing the rind, its esculent substance appears in the form of a juicy pulp, having the whiteness and solubility of snow, and a refreshing, delicate, delicious flavor; this is the pulp of the cells, and these separate easily from each other, like the cells or lobes of an orange. "The flavor," says one who ate of the fruit produced at Syon House, "was, delicious, and compared, by some who partook of it, to that between a first-rate peach and of a good grape." Dr. Abel, when speaking of the fruits of Batavia, says, "to define it by precise language would be difficult. We were all anxious to carry away with us some precise expression of its qualities; but, after satisfying ourselves that it partook of the compound taste of the pine-apple and peach, we were obliged to confess that it had many other equally good, but utterly inexpressible, flavors. From its perfect wholesomeness, it may be eaten in any quantity; and, as it possesses no luscious qualities, it does not soon cloy the palate. It is not a little singular that a plant nearly allied to the Gamboge, should yield so wholesome a fruit. The rind is astringent, and employed in cases of dysentery, and the bark of the wood is used as a dye.

In British stoves, it has attained the height of ten or twelve feet; in the Malay Islands, it is said to be twenty feet. A botanical description will be found in Curtis's *Botanical Magazine*, vol. ii., 3d series, Plate 4,847. All writers attest its great excellence.

Fig. 1. Flower. 2. Seed-vessel. 3. Flower-bud. 4. Back view of flower; the fruit, and a section of the interior, are represented above, with the leaves.

There are now, in this country, many plant-houses well calculated to grow the Mangosteen, and we hope, by publishing the plate, to induce some of our zealous propagators to attempt it. There are other rare and beautiful fruits yet to be tried among us, such as the nutmeg, a most beautiful shrub and fruit, chocolate, clove, litchis, and vanilla, all of which, ere long, we hope to see gracing our exhibitions.

Some further particulars regarding the Mangosteen will be found in our last volume, page 498.

THE BEAUTIFUL IN NATURE.

BY A. D. G. CLINTON, N. Y.

WHATEVER definition of beauty we may adopt, the fact of its existence will not be questioned. It greets us on every hand, more abundantly disclosed, indeed, to the cultivated and observing eye, yet visible also to the most superficial and heedless. Physical beauty—of which alone we now speak—abounds in every department of nature. In the animal kingdom, for instance, what graceful forms and proportions, what richness and delicacy of colors, what sweetness of sounds! It was not mere utility that fashioned the humming-bird which flits around our doorways, or the bobolink pouring out his liquid, gurgling melody as he flies over the meadow. "In the commonest human face," says an artist, "there is more beauty than Raphael will take away with him." The eye is not only an admirable contrivance for conveying images of external objects to the mind, but, in its form, colors, and varying expression, is in itself beautiful. Can anything surpass the tints of an insect's wing, whether viewed by the naked eye, or through the lenses of a microscope? If we descend into the region of animalcules, the minutest living objects examined by the most powerful instruments exhibit the greatest

perfection and finish. Indeed, it seems as though the Creator had purposely drawn a veil between the common eye and some of the finest specimens of his handiwork, in order to surprise, and stimulate the investigations of science.

In the mineral kingdom, there are not only the precious and useful metals, but also beautiful gems. Those most useful often appear in pleasing forms and combinations. Here are the diamond, sapphire, emerald, topaz, ruby, and other precious stones, which, under the hand of the lapidary, reveal the most exquisite tints and shades of color. What wonder that wealth and beauty, and the pride of kingdoms, have in all ages come to this kingdom of nature for their ornaments ! Surely, utility had little need of these minerals in laying the foundations of the earth. Caverns would have afforded the wild beasts and reptiles just as safe and convenient lurking-places though they had not been paved and arched over with gems.

In the vegetable kingdom, there is beauty in the seed cast into the earth ; and in the plant shooting up into the sunlight, in its opening leaves, with their various forms and hues ; in the out-spreading branches, stems, tendrils ; in the forming bud, the expanding flower, and the ripening fruit. Notice the shape and structure of trees. Yonder elm, for example. It is not set in the ground like a post, but springs from it like a thing of life. Its massive trunk, braced up with buttresses, rises on high, then spreads out in tapering branches on every side, supporting a leafy dome whose majesty and grace charm every beholder. Analyze the tree more minutely. Examine its bark, twigs, leaves ; cut into its very heart-wood, and beauty haunts you still. How wide the diversity between the pendulous willow and the stately and dense maple, the gnarled oak, the columnar poplar, and the heaven-kissing pine. Observe the variety in the form, size, and color of leaves, both of trees and plants. There is a vast range between those of the palm-tree and the *Victoria regia*, down to the leaflets of the mosses. Even in mid-summer, there are purple and blue, gray and yellow, striped and veined, splashed and spotted, and various other colored leaves, with every conceivable shade of green. And then, what changes are wrought in their color between the first pale hues of spring and the crimson and gold of autumn ! And after the varied glory of summer has passed by, and the pomp of autumn is blasted, it is not the least pleasant sight of the year to observe the evergreen trees, holding out faithfully amid frosts and storms, and diffusing a smile over the cold face of winter. And, as to flowers, words cannot express their loveliness. But the wide earth is covered with them ; the air is loaded with their fragrance. At every step, you trample on some wonder of elaborate workmanship and beauty. Fruits, too, at least most of them, must be set down among the beautiful. Here are ruby cherries, golden pears, fair-cheeked apples, purple grapes, which are not only good to eat, but pleasant to look upon.

There is beauty, also, in the elements of fire and water. In fire, glowing in our evening lamps, crackling on our hearthstones, throwing far its beams, by night, from many a casement on hillside and plain, illuminating the streets of cities, flashing on the headlands of rocky coasts, and shining from the sun and stars. In water, when the dew scatters diamonds on grass, shrub, and tree ; when the mist spreads along the valley, or rolls up the mountain side, and when the departing shower garlands its locks with rainbows ; beauty, too, when it ripples on the sea-shore, when the ocean is burnished with gold by day, and silver by night, and when its waves are gemmed with phosphorescent fires ; beauty in lakes, rivers, creeks, and musical brooks, in the silvery spray of fountains, and in the silent springs, reflecting the overhanging woods.

The revolving seasons have many pleasing aspects. Spring scatters the Hepa-

tica and Anemone on the hillside, tinges the meadow with green, breathes on tree and shrub, and bids them revive, and awakes the song of birds. Summer fills the air with fragrance and music, robes the forest in deep, rich foliage, supplies man with fair and invigorating fruits, and decks his fields with the tokens of a coming harvest. She brings us cool and dewy mornings, long twilights, evening airs, resonant with the chirp of insects, the peal of distant bells, and the murmur of leaves and streams. She brings that

“— strange, superfluous glory of the air,”

which poetry feels, though chemistry cannot discover it, brings skies of tropical richness and splendor, clouds, and refreshing rain. Autumn comes laden with ruddy fruit and golden grain; she decks the hills with variegated banners, and over all casts a thin, azure haze, softening the rugged outlines of the landscape, suffusing every object with a dreamy spell which laps the beholder in an Elysium of delight. And last in the train comes winter, spreading his white mantle over the earth, hanging crystal pendants on tree and shrub, purifying the atmosphere, giving the sky a deeper blue, and the stars an intenser lustre, filling the northern air with Auroral coruscations, and compelling the coldest heart to exclaim: “God hath made everything beautiful in its time!”

But is the world, indeed, one wide, unvarying scene of beauty? There are exceptions, certainly, to this general fact. In the animal and vegetable kingdoms, there are imperfect developments and deformities even. There are thorns and poisons as well as flowers and wholesome fruits. Barren deserts, vast marshes, and rocky wastes abound as well as fertile plains and blooming gardens. Tempests howl through the sky, the lightning smites the earth, volcanoes and earthquakes rend its bosom. Does not this mixed state of things indicate that something has happened to the earth since its creation? May it not be that the natural world sympathizes with its chief inhabitant and lord, bearing part of the woe which has fallen upon him?

“O earth! dost thou, too, sorrow for the past
Like man, thy offspring? * * *
* * * Dost thou wail
For that fair age of which the poets tell,
Ere yet the winds grow keen with frosts, or fire
Fell with the rains, or spouted from the hills,
To blast thy greenness?”

But, without pursuing this inquiry, it is obvious that the world is full of beauty: it surrounds man with a continual presence, and addresses his soul through every possible avenue. What, now, is the *meaning* of this beauty? It is not here by accident. The machinery of the universe might have been firmly constructed, and its parts closely fitted and properly lubricated, without being adorned with tracery, and set with gems. Why, then, did the Creator superadd the ornamental to the useful? We answer—why should he have done otherwise? It is hardly conceivable that the Divine Intelligence should manifest itself spontaneously in the way of deformity and ugliness. On the contrary, it seems proper to suppose that God made the world beautiful, because, in giving visible expression to the thoughts of his own perfect mind, he could not embody them otherwise than in forms of beauty.

Moreover, the earth so made contributes to the Divine happiness. Tell us not that the Almighty takes no pleasure in that on whose adornment he has lavished so much care, and which his own lips have pronounced “very good.” The earth was not made as it is solely for man’s enjoyment; else, what mean the thousand,

thousand flowers which bloom and shed their fragrance amid untrodden forests and on inaccessible mountains? What mean the uncounted gems and precious stones which lie undiscovered on the bottom of the ocean and in the bowels of the earth? Untold wonders lay open to the Divine Eye before the invention of the microscope, and doubtless still greater remain undiscovered, which no perfection of human instruments will ever enable man to behold. The Infinite Mind sees all these things at once, the vast and the minute, and finds happiness in them.

No one will deny that the world so made promotes man's happiness. The brute creation cannot appreciate beauty, and hence their happiness was not taken into the account in this thing. An ox can detect poisonous herbs by their odors, but he never stops to admire a sunset; he has no passion for mignonette. A dog will trample down the finest *parterre*, in search of a bone. Man alone, of all creatures on earth, is permitted to share with the Divine Being in the enjoyment of the beautiful. And has not that Being dealt toward man, in this respect, with a God-like benevolence? He has made the earth a Paradise—not a prison-house. He has made it not simply endurable, but a place of delight.

These things being so, the beautiful in nature should receive attentive regard. Some men affect indifference to every form of beauty, and others associate a taste for such things with mental effeminacy. The fairest lily pleases them less than the blossom of a pumpkin vine, for it promises nothing really useful. The most charming river charms them only as it feeds canals, or drives machinery. The most stately tree excites only apprehensions of its injury to some growing crop, or suggests calculations as to its worth in firewood and lumber. Let such men hear the words of Channing: "Suppose that I were to visit a cottage, and to see its walls lined with the choicest pictures of Raphael, and every spare nook filled with statues of the most exquisite workmanship, and that I were to learn that neither man, woman, nor child, ever cast an eye at these miracles of art, how should I feel their privation? how should I want to open their eyes, and to help them to comprehend and feel the loveliness and grandeur which in vain courted their notice! But every dweller in the country is living in sight of the works of a diviner Artist; and how much would his existence be elevated, could he see the glory which shines forth in their forms, hues, proportions, and moral expression!"

This love of the beautiful should be carefully fostered. Too often is it repressed and overshadowed by severely practical pursuits. Were it more assiduously cultivated, we should see less of that hard materialism and Epicureanism which now prevail, less of that perilous haste to be rich, less of that vulgar ambition for display, and more real culture of mind and simplicity of manners, more purity and contentment. Happily, the means for its culture are confined to no class in society. Wealth and power may lock up many rare specimens of art from the common gaze, but they cannot monopolize the sunset, nor the thousand forms of beauty which fill the earth.

It hardly need be added here, that it is right to enjoy the beautiful. Did not the Perfect Man, as he trod the earth, delight to look upon its various, pleasing aspects? "Consider," said he, "the lilies of the field! * * Solomon, in all his glory, was not arrayed like one of these." Man might have lived a brute's life, subsisting upon roots and nuts, but God saw fit to endow him with a higher style of existence, and planned the world expressly to minister to his intellectual wants and tastes. Does it then become man to turn away from all these things as from things forbidden? They are a royal gift, and should be gratefully received. They are not a radical cure for the ills of life, but they are a most pleasing solace. They serve to refine and elevate the taste, to calm the passions, to soothe grief, and lighten heavy burdens.

No one need fear that the beautiful in nature—say what he will of art—will prove a snare to him. Why should it not rather purify his thoughts, and lift them upward, give them higher conceptions of God and of heaven? For, if God has so wonderfully adorned this distant and comparatively insignificant planet, what will He not do in the immediate presence of His throne?

The view we have now taken, suggests an argument for rural improvement. If, as many suppose, man has brought in a measure of deformity upon the otherwise beautiful earth, let him seek to restore the earth to its primitive loveliness. He cannot, indeed, robe the entire globe in the beauty of Eden, but he can remove much of its ugliness, can fertilize much of its barrenness, and some small portion of its surface he can highly adorn. He can clear away wild forests, root out the thorn and thistle, and clothe even the most sterile soil with verdure. Whatever is already beautiful, he can preserve from desecration. He can erect comfortable and tasteful dwellings, and so arrange them within and without, that their occupants shall have daily familiarity with objects affording pleasure and promoting refinement.

Were the public taste more generally and highly cultivated, our hillsides and valleys would present a spectacle of greater beauty than they now exhibit. The neat cottage, the farm-house, the mansion, each embowered in leafy beauty, would speak, in no mistaken language, of contentment and social culture. Broad avenues of trees, mile after mile, would refresh the highway traveller. Public parks and gardens, and cemeteries, would be amply provided in the neighborhood of all our cities and villages. And, above all, each home would be surrounded with whatever could lend it ornament and grace, binding to it the heart of the child and the man of years, weaving about it precious memories which no lapse of time, nor change of fortune could ever destroy.

VISITS TO COUNTRY PLACES, No. 4.

If the regulations regarding passports that are enforced in Italy, were adopted in America, probably fewer persons would be found behind our locomotives. In the town of Bologna, at this moment, says the last *Quarterly Review*, no man can have a passport to leave his home, unless his wife, in person, or by letter, signifies her permission that he should go; if he is single, an attestation from his curate of "stato libero" is required. A gentleman cannot visit his property, and a domestic cannot go to see his family, a few miles distant, without a passport, to obtain which, in proper form, requires attendance at different places. Nor can any servant be dismissed without informing the police whither he is gone, and whence his successor comes.

What a contrast our country exhibits. The passport system is not much better in other European countries, while here we follow every whim, and trot about with as little consideration as if there was nothing to do at home; home, in fact, there is none to a large portion of our population. But, if we are ready to question what objects are taking the numbers travelling on steamboat and railroad, whom one meets in every direction, let us remember they have the same right, if right there is, of inquiry regarding ourselves. So we had better proceed to business.

Mr. Sargent's kindness arranged excursions for our horticultural party, by railroad, to the successfully planted places up and down the river: these were performed with comfort and ease, in consequence of the regularity and rapidity with which the managers of the road contrive to run their cars. The first was to the grand establishment of

Rockwood, the seat of Edwin Bartlett, Esq., near Tarrytown, about thirty miles above the city of New York. We found Mr. Bartlett in possession of a princely mansion, having a *façade* of nearly one hundred and fifty feet, several hundred acres of land finely situated on the banks of the Hudson, with a beautiful reach of river view, and with sufficient native trees on the front to screen it from obtrusive observation. The planting round the house is new; there are, however, a few of the original shade trees left, to break the glare of the southern front. Mr. Bartlett has just arranged for extensive conservatories and greenhouses, under the management of Mr. Leucars, a builder of these structures of great experience. His other improvements employed, at the time of our visit, about eighty men. There can be little doubt that, with Mr. B.'s means and liberal expenditure, and the great interest and taste shown by both Mrs. Bartlett and himself, *Rockwood* will become one of the most ornate and beautiful country-seats in America.

At Mr. Bartlett's, we had a discussion on the merits of the lawn mower, highly favorable by comparison to that instrument, and we are confident that, when it is introduced on these extensive lawns, their appearance will be greatly improved. A good lawn is so much the foundation of beauty in a country residence, that there can be no perfection without it. The dream of Downing regarding the perfection of our country-seats, will never be realized until, by deep trenching, we provide for the sustenance of the roots of the grass in our long summers, and, by this or some other mower, we shall be able quickly to remove the growth, and roll the surface. We are rapidly coming at this point, and by no means so rapidly as through the use of Swift's lawn mower. A single inspection of a highly kept place, will convince the most sceptical that no other expenditure is so important as the careful keeping of the grass. And yet, strange to say, there is no expenditure that country gentlemen hesitate more about than the frequent cutting of their lawns. There is many a place we know of, where one to two hundred thousand dollars have been spent, and yet, where the owner hesitates about cutting his lawn once in ten days, on account of the expense, and refuses to keep the grass short in the park by feeding, because he can't afford to lose his hay; and yet this same gentleman will sigh over the beauty and keeping of English places, when, if he would do as the English do, his own place would be every whit as fine. Where do you see, in England, a park in hay?

Downing's Place, at Newburgh.—During one of our delightful mornings at *Wodenethe*, we crossed the river to Newburgh, to inspect the site laid out by Downing, and to visit the poet of Idlewild.

As is known to most of our readers, the Downing mansion and grounds have been sold; they are now owned by Mr. Alger, who is making certain expensive changes and additions, which, doubtless, will increase the comforts of the residents; but it would have been more consonant to our feelings if everything had been left in the condition its planner approved, and his own laying out of the grounds preserved for the future pilgrims to this American shrine of genius. It is not for us, however, to advise, and we can only describe it as we found it. The lawn has been extended, and was in a state of progress, with little grass visible. The Warwick vase, presented by the French *artiste* who made similar ones for the Government grounds at Washington, still holds its place, and there are still marks of Downing's footprints; but, we fear, pains are taken to obliterate them. New and costly stables, in fantastic forms, have been added, a new stile of cut stone, at the garden-gate, introduced, which speaks not of Downing, and other changes are in progress which we regretted to see.

Idlewild, the residence of N. P. Willis, Esq., is one of those "natural bits of nature" which a poet must love; the owner's taste has induced him, with good

judgment, to leave nature to her own enjoyments, for it is just such a spot of "capabilities" as would ruin any common purse in a few months after the attempt at change was commenced. The road ascends, by gradual curves, a steep whose top is crowned by a modern mansion well hung with pictures, including portraits of celebrities, and busts of the divinities who preside over poets' residences. The view from this "peak" is all that poets could desire; river, rocks, trees, and waterfalls, with many of the most celebrated sites and scenes of the Highlands, West Point (which also lies at your feet, at Wodenethe), Newburgh, General Morris's house, on the opposite side of the river, and numerous traditionary neoks, conspire to fill the mind with memories and retrospections—those happy occupiers which the traveller in the long inhabited regions of the old world so lovingly dwells upon.

We found the author of "Lines to my Mother on leaving Europe" in better health than we had been led to expect. He soon proposed a promenade to his cataract, and an inspection of his fine trees. The hemlocks and the waterfall are all the letters from Idlewild have described them to be, and lovely additions to this highland home; in fact, *just the things* one would most covet. They come out in such bold relief in the poet's description, that we found ourselves quite at home among them, and felt as if perambulating some well recollected scene. The place is worthy of a poem, and a continual poem it seems to be to Willis.

RABBITS, IN SEVERE SEASONS.

BY ALLAN W. CORSON, MONTGOMERY CO., PA.

I AM always pleased to see the birds, rabbits, and even the musk-rat, rogue though he be, in my garden and nurseries, and occasionally give them "aid and comfort" when necessary, more especially by endeavoring to prevent the gunners from destroying them; and, therefore, rabbits are rather more numerous about those grounds than in some other places, and, excepting in rare instances, they do very little injury.

In the last severe and long-continued cold weather and deep snow, I placed apples, cabbage-leaves, and other vegetables, in places that they frequented, but I had a few large apple-trees which got their annual trimming during the deep snow, and the branches or spray remained on the snow, being difficult to collect and take away. Upon passing through the garden, I found on the surface of the snow rabbit tracks in great abundance in the vicinity of the trimmed trees, with well-beaten rabbit roads from tree to tree. Upon close examination, I discovered that the buds on the cut branches had been eaten, and especially those on fruit-bearing spurs, and that, after the trimming of the trees, the other provisions had been almost untouched, they evidently preferring the apple-buds.

To their enemies, who would destroy them because they are sometimes obliged to injure young trees and plants in order to subsist, and to their friends, who desire to preserve them alive in severe seasons, I recommend the providing them with thinnings and prunings of branches of orchard-trees, which are abundant at such times; then I believe they will not injure those who regard them as enemies, and they will be preserved to give pleasure to their friends.

ELECTROTYPING.

THE visitor to London cannot fail to remark the extensive electrotype manufactory of the Messrs. Elkington. This firm employ about five hundred workmen, executing the designs of the best artists of the day. Their warehouses are found in Dublin, Edinburgh, and all the large towns; the firm is understood to have made a very large fortune.

Electrotype is one of the most valued gifts which science has conferred upon art, since it brings, like Parian, the most magnificent works, such as formerly only the most wealthy could obtain, within the reach of all lovers of the beautiful. The artist has attempted to portray one of their imitations of flowers in the accompanying picture, which we give as an example in "our line." The art is practised in America, but we believe not so extensively as in England.



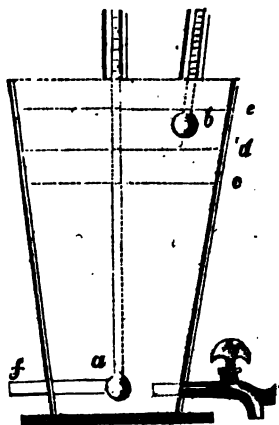
CULTURE OF THE TROPÆOLUM TRICOLOR.

It has been remarked, that the roots of this plant are developed with much more rapidity when they are simply laid upon the surface of the soil than when they are planted. It is equally well known, that it is very advantageous to the frail and delicate roots of this species, to place the pot which contains them in another pot. In this way is avoided the necessity of their running at large, as would be the case without that. The exterior pot preventing the sun's action being felt on the inside one, the roots are kept much fresher than in ordinary cases, with a less amount of earth, a speciality very important in the culture of this plant, and of all those which are remarkable for the smallness and deli-

easy of their roots. In short, in ordinary culture, to prevent these plants from being too strongly heated, or too quickly dried by the heat of the sun, water is frequently given fully on the sides, and thus they are in great danger of suffering by excess of dampness.—*Flore de Serres.*

RATIONALE OF DRAINING LAND EXPLAINED.

THE reason why drained land gains heat, and water-logged land is always cold, consists in the well-known fact that heat cannot be transmitted *downwards* through water. This may readily be seen by the following experiments:—



Experiment No. 1.—A square box was made of the form represented by the annexed diagram, eighteen inches deep, eleven inches wide at top, and six inches wide at bottom. It was filled with peat, saturated with water to *c*, forming to that depth (twelve and a half inches), a sort of artificial bog. The box was then filled with water to *d*. A thermometer, *a*, was plunged, so that its bulb was within one and a half inch of the bottom. The temperature of the whole mass of peat and water was found to be $39\frac{1}{2}^{\circ}$ Fahr. A gallon of boiling water was then added; it raised the surface of the water to *e*. In five minutes, the thermometer, *a*, rose to 44° , owing to the conduction of heat by the thermometer and its guard tube; at ten minutes from the introduction of the hot water, the thermometer, *a*, rose to 46° , and it subsequently rose no higher. Another thermometer, *b*, dipping under the surface of the water at *e*, was then introduced, and the following are the indications of the

two thermometers at the respective intervals, reckoning from the time the hot water was supplied:—

	Thermometer <i>b</i> .	Thermometer <i>a</i> .
20 minutes	150°	46° .
1 hour 30 "	101°	45° .
2 hours 30 "	$80\frac{1}{2}^{\circ}$	42° .
12 " 40 "	45°	40° .

The mean temperature of the external air to which the box was exposed during the above period was 42° , the maximum being 47° , and the minimum 37° .

Experiment No. 2.—With the same arrangement as in the preceding case, a gallon of boiling water was introduced above the peat and water, when the thermometer, *a*, was at 36° ; in ten minutes it rose to 40° . The cock was then turned, for the purpose of drainage, which was but slowly effected, and, at the end of twenty minutes, the thermometer, *a*, indicated 46° ; at twenty-five minutes, 42° , whilst the thermometer, *b*, was 142° . At thirty minutes, the cock was withdrawn from the box, and more free egress of water being thus afforded, at thirty-five minutes the flow was no longer continuous, and the thermometer, *b*, indicated 48° . The mass was drained and permeable to a fresh supply of water. Accordingly, another gallon of boiling water was poured over it, and, in

8 minutes, the thermometer, <i>a</i> , rose to	77° .
5 " " " fell to	$76\frac{1}{2}^{\circ}$.
15 " " " " "	$70\frac{1}{2}^{\circ}$.
20 " " " " "	71° .
1 hour 50 " " " " " remained at	$70\frac{1}{2}^{\circ}$.

In these two experiments, the thermometer at the bottom of the box suddenly rose a few degrees immediately after the hot water was added; and it might be inferred that heat was carried downwards by the water. But, in reality, the rise was owing to the action of the hot water on the thermometer, and not to its action upon the cold water. To prove this, the perpendicular thermometers were removed. The box was filled with peat and water to within three inches of the top; a horizontal thermometer, *a f*, having been previously secured through a hole made in the side of the box, by means of a tight-fitting cork, in which the naked stem of the thermometer was grooved. A gallon of boiling water was then added. The thermometer, a very delicate one, was *not in the least affected* by the boiling water in the top of the box.

In this experiment, the wooden box may be supposed to be a field; the peat and cold water represent the waterlogged portion; rain falls on the surface, and becomes warmed by contact with the soil, and thus heated descends. But it is stopped by the cold water, and the heat will go no further. But, if the soil is drained, and not water-logged, the warm rain trickles through the crevices of the earth, carrying to the drain level the high temperature it had gained on the surface, parts with it to the soil as it passes down, and thus produces that bottom heat which is so essential to plants, although so few suspect its existence.

This necessity of warmth at the root undoubtedly explains why it is that hardy trees, over whose roots earth has been heaped, or having laid, are found to suffer so much, or even to die; in such case, the earth in which the roots are growing is constantly much colder than the atmosphere, instead of warmer.

It is to the coldness of the earth that must be ascribed the common circumstance of vines that are forced early, not setting their fruit well when their roots are in the external border, and unprotected by artificial means; and to the same cause is often ascribed the *shanking* or shrivelling of grapes, which most commonly happens to vines whose roots are in a cold or unsunned border.

ON THE CULTURE OF THE PEACH.

BY SAMUEL T. JONES, THE CEDARS, STATEN ISLAND, NEW YORK.

As you were pleased, in a late number, to introduce some approbatory remarks upon my management of the peach, it may not be uninteresting to some of your readers to have a statement more in detail. It is not unusual to hear of the degeneracy of the peach-tree—that it is more subject to disease than formerly, and especially the *yellow*s—and that the duration of the tree, in vigorous health, is limited to some six or seven years. I have even heard the belief expressed, that the *yellow*s was transmitted, from generation to generation, by budding from trees apparently healthy, and, also, that the infection was liable to spread from one tree to another.

In my judgment, founded upon the experience of many years, these ideas are erroneous not less than they are injurious and discouraging to the propagation and well-being of the tree. Through the exercise of a little care and attention on the part of the grower, which is but a small return for the generous loads of delicious fruit yearly furnished by this tree, I have been enabled to preserve most of them in full vigor for a period of upwards of sixteen years.

The system I have followed first commences in the nursery, or shortly after the tree has been transplanted, by cutting out the top or central branches, leaving but three or four laterals, at a height not exceeding two or two and a half feet from the ground. This system is constantly followed in after years, which disposes the

tree to grow with a hollow centre, admitting light and air more thoroughly among the branches, and greatly facilitating the gathering of the fruit and the future prunings. These latter may be performed during the winter, early spring, or, moderately, during the summer, so as not to endanger the premature bursting or running into wood, of the buds destined to furnish fruit the following year. By means of an ordinary walking-stick, furnished with a hooked handle, the topmost branches, even of trees pruned with hollow centres, may be bent down, and made accessible from the ground, until the limbs become too rigid to bend, through extreme old age. This is by no means a small advantage, when, among many hundreds of trees, it is considered that the full flavor of the fruit so much depends upon gathering it precisely at the proper period of maturity, and through which an examination by the touch may be had with facility, of each separate fruit.

The next, and more important consideration, is to restrain the tree from exhausting itself by its too generous crops of fruit, and which can only be done, with facility, by diminishing the number of fruit-buds at the winter or early spring pruning. My constant instructions, at this time, are "not to spare the knife," being well persuaded that it is necessary not only to the longevity of the tree, but also to the size and quality of the fruit. As the fruit is borne only upon the wood formed during the preceding year, the rule is, first, duly to attend to the hollow form of the tree, which should be constantly maintained, and, secondly, to head back each fruit-bearing branch to at least one-half its extent. The crop is thus easily kept within reasonable bounds, and if, after the lapse of many years, any of the main laterals become too rigid or too much extended, new ones may be allowed to grow in their place, and the old ones then withdrawn. The vigor and growth of the tree seem to be surprisingly increased under this restraining system, as are also the size and quality of the fruit.

The third important point is, to guard the tree from its insidious and deadly foe, the worm. For this purpose, two examinations of each tree should regularly be made—one in the month of May, and the other in September. Fortunately, the presence of the worm may easily be discovered at or just beneath the surface of the ground, by the oozing of the gum, and, if not duly attended to, will in a short time occasion the destruction of the tree by cutting around the bark, and thus diminishing or totally destroying communication between the tree and its roots. The worm is most speedily and effectually destroyed by scraping and probing them away through the aid of an ordinary oyster-knife, which is usually pointed and formed with a double edge. With such an instrument, a person may go through many hundreds of trees in a day, when the system is regularly attended to as above described, and it will be found that, with such care, but here and there only will a tree be infested and require attention.

As the peach-tree is so generous in its growth, and in its exuberant crops, it is necessarily a great exhauster of the soil, and must have the support of proper manures. It is also essential to its prosperity that the soil should be kept open, and free from grass or weeds. I have found that the cultivation of many kinds of root crops requiring manures and frequent stirring of the soil, such as potatoes, beets, turnips, &c., are quite consistent with the health and vigor of the tree, but that, when the soil becomes bound through a dense growth of grass, which excludes light and air from the roots, it soon dwindles, becomes sickly, takes on the *yellow*s, and dies. At the period of *stoning of the fruit*, a large demand for silica is made upon the soil, which must necessarily be dissolved, and conveyed through the roots, trunk, and branches, in a soluble state. It is probable that, along with carbonic acid, some kinds of alkaline manures, such as lime, or a mixture of one-third potash and two-thirds salt, contribute most powerfully to aid the efforts of

the tree in effecting its solution, and, with this view, I have caused a handful or two, according to the size of the tree, to be applied upon the soil, and forked in to the distance of about three or four feet around each one, at the time of the examinations for worms in May and September. A dose of guano, to the same extent, in lieu of the above, is also excellent.

Under this system, which is by no means expensive or burdensome, I am well repaid by regular and large crops of the finest fruit. I have never had a case of the *yellow*s, unless, through some oversight, a tree has been neglected at the examinations for worms, and the application of the alkaline manures has been omitted.

In my judgment, this disease is owing entirely to a want of attention or neglect of one of the important points I have adverted to, and when a tree, through neglect, has become affected with the *yellow*s, I have in no instance known it to extend to the other trees upon which attention had been duly bestowed.

[*Remarks.*—The foregoing is worthy of minute attention from all who possess a peach-tree; it is the result of experience, attended by as great success as we have ever seen, and may not only be now read, but should be referred to annually.—Ed.]

EFFECTS OF FROST IN THE SAME LOCALITY.

Few things have more perplexed gardeners than the different degree in which the same species of plant has been affected by frost in the same locality. The last two winters have afforded abundant examples of plants destroyed and unharmed in the same garden or village, under what have been thought to be identical circumstances. Many of these cases have appeared to be so little explicable by differences of temperature, that he who would interpret such phenomena has been obliged, in some instances, to assume that different individuals of the same species possess different degrees of vitality, which renders some more able than others to resist a low temperature.

We find in the "*Revue Horticole*" some valuable observations upon this point, by M. CHARLES MARTIN, who has very carefully studied as a physicist* the effects of the last two winters at Montpellier. Without denying that the vital power of individuals differs considerably, he has nevertheless sought to explain the phenomena which were presented to him by reference to mere differences in temperature; and we cannot do better than give a concise account of the result of his inquiries.

In the first place he points out the great differences in temperature which are known to occur in places quite contiguous to each other, but which are unsuspected by the ordinary observer. By way of illustration he takes some details supplied by M. RENOU from Vendôme in 1852. The valley of Huchingy, about a mile and a half from that place, is 200 yards wide, and bordered by little eminences only 40 yards high. In this place it is always found that the winter temperature, when the wind is in the north, is from 5° to 15° lower than at Vendôme. For instance, Jan. 24, 1852, the temperature at Vendôme was 26°, and at Huchingy at the same hour 21°. Feb. 21, Vendôme 26°, Huchingy 19°. March 4, Vendôme 28½°, Huchingy 17½°. Finally, on the 20th of April, while the air of Vendôme was 30°, the thermometer fell at Huchingy to 15°. Such differences, he remarks, are the necessary consequence of the laws of heat, and it

* This word has been lately proposed as the English form of the French word *physicien*, and we willingly adopt it.

would be most surprising if they did not exist. An observer of the weather who should announce his having remarked the same temperature in the centre and environs of a town, on the north and south sides of a hill, in a low place and on a height, would gain little credence from those who understand these subjects. Gardeners are most especially those who should appreciate and provide against such differences.

As an example of their effect, M. MARTINS cites the following instances, which occurred this last spring at Montpellier to the Sweet Bays, Olive trees, and Fig trees. Of these plants some perished while others escaped, and it was here that the effects of aspect and shelter were most conspicuous. In fact, had not the ordinary thermometers shown that the minima of temperature greatly differed, these trees—real living thermometers as sensitive as those of the philosophical instrument maker—would have plainly indicated it.

To begin with the Bay. In a low part of the Botanic Garden, where the temperature was ascertained to have been $+ 8^{\circ}$ on the north side of a wall, and $- 1^{\circ}$ away from all shelter, the Bays almost all died. But it was different in a part of the garden called the Bosquet de Narcisse, where a swell of the ground raised the surface about six yards; here the Bays suffered little; a few were scorched, but the foliage of most of them remained green. At this place the thermometer did not fall lower than $+ 6\frac{1}{2}^{\circ}$. Undoubtedly, in the Bosquet de Narcisse the Bays were sheltered by high Cypresses and great Celtises; but in a neighboring garden they suffered very little, although not at all sheltered. Moreover, in the low part of the garden the Bays died, although they were sheltered. In short, they escaped wherever there was any rise of the ground. Hence it appears that the difference of a few yards in the level affects temperature so much as to produce entirely different effects upon vegetation. M. MARTINS remarked, however, that Bays stronger than the rest escaped the frost in the midst of others that died.

It was the same with the Olive trees. In low places where the thermometer fell to $- 1^{\circ}$ they perished down to the old limbs. In a place protected from the north by a house they only lost their leaves. In all the district between Montpellier and Nîmes the Olive trees of the plain suffered more or less, and had to be cut back, while those on the low hills sustained no injury. None of these hills are above sixty yards high, and many much lower. There was a pair of young Olive trees (*Olivettes*) planted near each other, but with a difference of elevation between them of ten yards only; in one the leaves were all scorched, in the other they were scarcely hurt. Many cases of the same kind were observed in other places. These facts appear to establish a general law that "cold is most injurious in low places where radiation is most intense in consequence of the tranquillity of the air, and least injurious in exposed places where the agitation of the air opposes the effects of radiation."

Fig trees and Pomegranates presented the same general results.

Hence M. MARTINS infers that one of the first duties of a gardener is to make himself acquainted with LOCAL CLIMATES, the differences among which are far greater than is generally imagined. For example, there occur in the Botanical Garden of Montpellier no fewer than four local climates. 1. *The coldest in winter and hottest in summer*; this is the lowest place unsheltered to the north and west, and only protected to the east by some tall trees. 2. *A space to the north of this, protected by houses and walls; it is not so cold, but as hot as the first.* 3. *The Botanical arrangement, sheltered on the north by an Orangery and greenhouse, surrounded by trees and buildings, and overlooked on the south-west by the hill du Peyrou; this is not so cold in winter, but excessively hot in summer.* 4. *The Bosquet de Narcisse and other elevated places; here the climate is more*

equable, less cold in winter, less hot in summer. The mildest place of all is the south slope of a little artificial mound, occupied by evergreen Oaks, Aleppo Pines, Loquats, &c.

These circumstances appear to be deserving of notice, for they show that in addition to the well-known protection afforded by walls and aspects, a very important practical effect is produced by such slight elevations as even a few yards; a point too often very little attended to in forming a garden, and very possibly the cause of some of the apparently conflicting results obtained by those who have recorded the effect of cold upon exotic trees. Most especially are they important as demonstrating the fallacy of thinking that a place is warm in winter because it is low, and cold at the same season because it is high. The defect of M. MARTIN'S observations seems to us to consist in his taking no account of the drainage of the places described by him.

OSIERS, AND BASKET MAKING.

SOUTH KIMESTON, August 23, 1856.

MR. JAY SMITH.—DEAR SIR: Being somewhat engaged in the Osier or Basket Willow growing, which looked very sanguine for a profitable business till last spring, I have not yet learned whether it is best to continue the business.

Downing said there were from \$3,000,000 to \$5,000,000 imported to this country yearly. But the report on "Commerce and Navigation" states only \$150,000 yearly. I ask your opinion as to the prospect of a market; whether it will pay to risk much time and money on them?

Yours, sincerely, &c.,

LEVI A. BEARDSLY.

Osage County, N. Y.

A friend of ours, near Philadelphia, who has a large willow garden, has more difficulty in deciding which applicant shall have his Osiers than in looking for a market. Our opinion is, that there is no great difficulty in finding a profitable market for them, where the soil and situation are suited to their growth.

We were lately struck with the remark of a foreigner, that "the Americans work too little in winter." It is true of the inhabitants of our Middle and Southern States; at the Eastward, they employ portions of their long evenings in levying contributions upon us in all sorts of shapes, as, for instance, brooms, baskets, and a thousand notions, that are continually draining our pockets, while we are too apt to pass the time thus profitably invested, in idleness or sleep.

For a beginner to "get along," he must have *something to sell*; baskets, made at home at odd hours, will at any time pay for the family groceries, by the labor of a single individual; and, if skill and taste are brought to the business, a great deal more will be earned. Brooms are thus made in private families, from the material raised on the farm. Why are not baskets? They would be much more remunerative, for, notwithstanding the number made, baskets are a dear commodity; they are sold to the grocer, and retailed at a high price.

Our correspondent and others would do well to learn the basket making business, and teach it to the family; he will then have a home market for his growth thrice as profitable as his osiers; it is of no use to raise willows if you cannot manufacture them, and are too far from anybody that can, to make transportation pay.



TERRA-COTTA ORNAMENTS.

WITHIN a few years articles in terra-cotta have come into extensive use for architectural and other ornaments, and this branch of art-manufacture is now carried to great excellence and beauty. The materials used are the finest clays, free from oxide of iron, which are mixed with calcined flints and old crushed pottery, and baked in a temperature but little below fusion. Modern terra-cottas are quite different from the articles known among the ancients under that name, and are much more durable. The beautiful examples above, consist of a water cooler, with decorations in the mediæval style, two hanging baskets, vases, &c. The models are graceful, and the ornaments are applied with excellent taste and effect.

The Staffordshire potteries are among the most interesting localities, in an industrial point of view, in England; Mr. Minton's establishment should be inspected by the American traveller, who will there find much to admire and reflect upon. Why it is that we are still dependent on Europe, and England especially, for all our wares of this kind, is only a question, we presume, of labor; but it is understood that a new attempt is making at the South to obtain independence in this particular.

ALLAMANDA GRANDIFLORA.

WHEN well grown and flowered, this is one of the handsomest of the Allamandas, and it is not very difficult to manage. Let us begin with a young plant in a five-inch pot, bought in spring from the nursery. Such a plant, if in good health, will in general be found to be what is termed pot-bound. The first operation, therefore, under such circumstances, will be to turn it out of the pot, remove the crocks, and carefully to disentangle the roots. If the latter are healthy, give rather a liberal shift—say into an eight-inch pot, using a mixture of one-half good fibry loam, one-quarter peat, and one-quarter leaf-mould, with a little sharp sand. Experience has proved that a soil of this kind, well mixed, and chopped up with the spade (not sifted), on an efficient drainage, suits it perfectly; but if peat cannot be had, then three-quarters loam, and one-quarter leaf-mould and sand, might answer. In both cases, place a layer of some of the most fibry and rough soil over the drainage, with a view to make the latter act perfectly and permanently.

After potting, give a thorough watering, to settle the soil about the roots, and place it in a smart bottom-heat, in a moist stove. When it shows symptoms of breaking, if the plant is weakly or drawn, cut it down to a prominent bud on the ripe wood, or, in the case of a stronger plant, bend it down, in order the better to equalize the flow of the sap, and cause the buds at the bases of the shoots to start simultaneously with those at their tops. Judicious watering and occasional tying will now be all that it will want, until it has filled the pot with roots, and requires a shift, which will probably be some time in June; for it must be remembered that it should not be allowed to blossom the first year. The point to be kept in view is, to have a good, strong plant furnished in autumn with well-ripened wood, from which abundance of bright yellow flowers may be expected the following season.

About the beginning or middle of June, if all has gone on well, it will be found to have filled its pots with fine, healthy roots, and should be shifted into an eleven-inch pot, using the same compost as before. After shifting, continue the generous growing treatment already recommended, until the end of autumn is approached, when water should be gradually withheld, and all the light and air that is possible given to it, to ripen the wood well, an important point in the culture of all plants, but more especially so in that of the Allamanda. Keep it all but dry during the gloomy months of early winter, and about the middle of February start it into growth. Prune the unripe tops off the old wood; and if a large and fine specimen is desired, shift it when it begins to break, and plunge it again into bottom-heat. Train the branches well out on a barrel-shaped trellis, which may consist of seven or eight nice hazel rods, of sufficient length, placed in the soil immediately inside the pot, fastened to a hoop about their middle, and then to a smaller hoop at their top. Bend the shoots of the plant round this, so as to cover it regularly; and when the young branches have begun to grow freely, train the strongest of them near the bottom of the trellis, so as to have your plant regularly covered with flowers, which it will be by the middle of July, if the foregoing directions have been carefully carried out.

In the third and fourth years it will flower earlier and better than in the second, and it will not require to be shifted; but it should be fed occasionally with clear liquid manure water, to keep it healthy and vigorous, without being over-luxuriant. By liquid manure, I mean clear, weak dung-water from the stable-yard.—*Alpha, in Gardeners' Chronicle.*

THE STEAM-ENGINE IN AGRICULTURE AND HORTICULTURE.

A PERIOD has just gone by us, in which what is called "famine prices" have been paid by the rich and the poor; our great cities have actually suffered from want; at one time, it was difficult to procure, for a large sum, a bushel of potatoes in the great city of Philadelphia, and we can testify it was eminently so in its outskirts. Why is this? Are so many people getting rich and lazy? Very probably! Have we so many non-producers? Yes! But may we not look to other causes also? Is not irrigation a neglected source of wealth? and, if so, what is the process by which we are to arrive at a remedy. We answer, without hesitation, the steam-engine must now step in and relieve us from our incubus. Just as we were pondering on this subject, we saw an advertisement in the *Horticulturist* of Harlan and Hollingsworth, of Wilmington, Delaware, of the very thing wanted, and then came another advertisement from Zanesville, Ohio, and a short letter from a gentleman who seems to have studied the subject, which contains so much good sense respecting the use of steam in agriculture and horticulture, that we adopt it. Steam has long wafted us on river and ocean, but it has but lately found its way to the farm, *on wheels*. Honor be to the man who thus mounted it, and sent it round, like a good physician, to visit its patients and

"Cure their ills
With constant rills."

Our correspondent shall tell the uses of a *pedestrian* steam-engine:

"The point is nearly reached, in the wonderful development of our country, when steam must be called in requisition to do very much labor heretofore done by human muscles, cattle, and horses, and to do much more, which their instrumentalities have never undertaken, but which the point reached in our progress renders necessary. In this, the horticulturist, whether commercial or amateur, as well as the agriculturist, has a deep interest.

"I will, in a suggestive way, point out a few of the various ends which steam must be called upon to subserve.

"The nearly steady annual decrease of rain during the summer and fall months, is, I believe, an admitted fact, and the train of consequences following these protracted droughts are beginning to attract serious attention, as the supposed causes are steadily going forward, with an increase proportionate to the increasing density of population. The fact is, that the water retires into deep, subterranean caverns, and artificial aid must be called into requisition to remedy this, as far as may be, and to elevate it again to the surface, where it will partially compensate for the long withheld showers of rain. This the steam-engine must do in the great majority of cases, if done at all. Cities and villages have artificial supplies of water, and why not the florist, horticulturist, and farmer?

"Again, the professional florist needs artificial heat during our protracted winters. Farmers, owing to the advanced price of grain and stock, will find it to their interest to substitute steam for many purposes, where admissible, for human, horse, and cattle labor, in threshing, cutting, crushing, and cooking feed, wood, &c. Having thus glanced at the utility, economy, as well as the necessity for the employment of steam in the more common affairs of life, the next inquiry will naturally be, has the steam-engine been simplified and cheapened, so as to fit and qualify it for these new uses? The answer is, that it has, to a very great extent, at least—sufficiently to answer present requisitions.

"The engravings attached to two advertisements inserted in this number, will give an idea of improvements in the portable steam-engine, which are a long step in advance of all that have preceded them in simplicity, durability, and cheapness. The novelty of the design, in Blandy's engine, is apparent to any persons who have examined other attainments in steam-engine building, either portable or movable.

"The fire-box is of good size, and adapted to any kind of fuel, or mixed fuel, and, from its peculiar shape, is nearly self-supporting, and having no crown bars, and very few stay bolts. This is not its greatest novelty or superiority, for this is in the bed-plate, which is a hollow column, having legs cast on it for its own attachment to the boiler, and seats for all the working parts of the engine, all of which are arranged in a straight line. The inside of this tubular bed-plate, is used to heat the supply of water before going into the boiler, by the waste steam.

"Its whole arrangement is as compact and artistic as a lever watch, and almost any size up to fifty-horse power can be moved on an ordinary, stout, farm wagon, and occupy not so much space as a common buggy or carriage. The exceeding simplicity enables any person, with a day's teaching, to run it safely and successfully."

Further particulars may be found by reference to the cards of the inventors and builders, in the advertising department, as well for the Ohio engine as for that of Harlan and Hollingsworth, to both of which we desire to call attention.

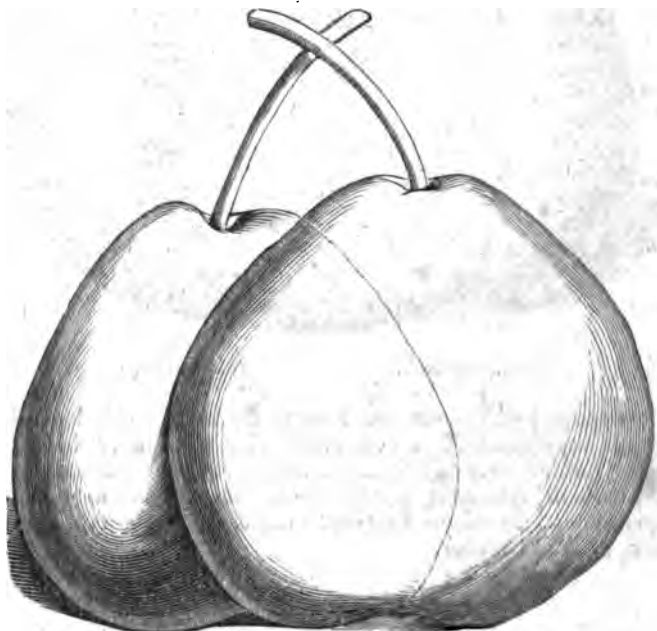
NEW PEARS.

No. 1. CHURCH PEAR.—A seedling from New Rochelle, N. Y., medium size ; stem, about one inch ; skin, bright green, turning to yellow green in the process

of ripening, spotted and marbled with hazel russet, which russet always surrounds the cavity. Calyx closed, basin medium, segments little apparent. Flesh buttery, very juicy and melting ; sweet, aromatic, best. Ripens slowly from 15th July to first week in August ; keeps well and long when ripe without rot at the core. In my opinion one of the best.

—B.

No. 2. HUNTINGDON PEAR.—Another New Rochelle seedling ; medium size or below medium, with

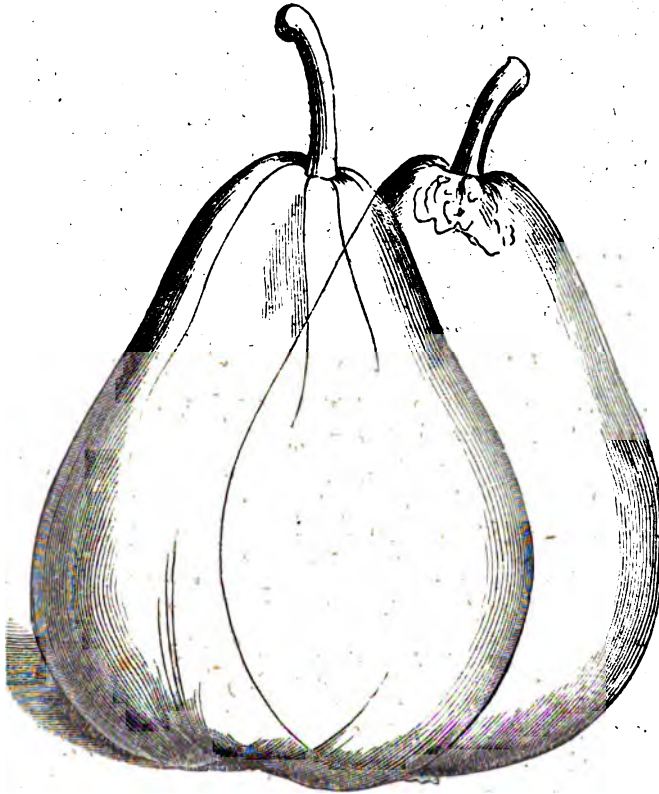


No. 1.—Church.

No. 2.—Huntingdon.

a rather slender and long stem, in a moderately deep, broad and uneven cavity. Eye closed in an abrupt basin, dotted with a few russet circles. Skin green, often colored around the basin and upwards with a crimson tinge. Flesh melting, very juicy, buttery, with a peculiar, very delicate flavor. Ripens well (middle or latter half of September); a very good pear.

No. 3. SELLECK (*from Vermont*).—Large handsome fruit. Skin green, turning over to bright yellow (the color of the Bartlett), when ripening; which it



No. 3.—Selleck.

No. 4.—Parsonage.

does slowly and without decaying at the core. The surface of the fruit is uneven, ribbed and knobbed. It has the flavor of the Bartlett, its juice and its melting flesh, with a great deal more sugar and relish. A superior fruit, in my opinion, if it succeeds as well south as in its native latitude. Ripe end of September and commencement of October. —B.

No. 4. PARSONAGE. — Another chance seedling of New Rochelle. Stem half inch or three-quarters long, stout, sometimes a little inclined, slightly sunk, with a very distinct russet cap around the shallow cavity. All

over spotted with russet, but more at the basin, which is shallow and broad. Eye open; segments stiff; a little erect; skin greenish yellow. Keeps long and fair after turning over to bright yellow or orange. Flesh white, melting, juicy, sub-acid-vinous, refreshing flavor; a very fine market pear on account of its size, quality, and handsome keeping. Good, or very good. End of September and first week in October.

MANAGEMENT OF LAWNS.

In all well-kept garden establishments, lawns not only form the principal features, but they occupy the larger portion of time and manual labor. Whatever is calculated to lessen this, or to make it more effective, is of the highest importance to the gardener. We remember well reading a report of the transactions for the year of the Sheffield Botanical Gardens, which had been, in some measure, starved for want of public support, and rendered very unsatisfactory to the curator, through the extremely limited means at his command. The shareholders were congratulated on the improved appearance of the gardens, in consequence of adopting a mowing machine instead of ordinary mowing. The improvement was manifest in the state of the gardens, and the saving was palpable in the accounts themselves. The only objection to the use of the machine, so far as we have heard, was that, if there were any hollows in the lawn, the work was not done complete; but this only applies to such hollows as would also baffle all attempts to do justice with a scythe, because the machine will work up and down hill, and on the side of a hill, as well as on level ground. It will follow in and out of all hollows large enough to take a roller, and everybody must know that inequalities that cannot be rolled, cannot be kept in order at all. Ruts like those made with cart-wheels, and holes that the roller would pass over, can never be mowed clean with the smallest scythe. The very first step to be taken towards getting a lawn in good order, is to destroy all such inequalities, either by raising the turf, or filling them in. Undulations are not only allowable, but, if well managed, are beautiful; but holes and ruts are altogether inadmissible. If lawns have been long neglected, they will have become rough and lumpy. The coarse grasses will have grown strong, and spread at the expense of the better and finer sorts. The whole must be cut as close as possible. This will at once show the inequalities, and if it be very bad, the first trouble and expense will be the least. Cut all the turf well, and roll it up to be stacked outside the work; have the whole space dug, levelled, and rolled, lay the turf down again, and beat it all over properly. It may then be rolled with a heavy roller after every good wetting with rain, and as soon as it begins to grow use the machine, which can be run over the whole space even before it is long enough to be cut with a scythe. If any of the noxious weeds should be inclined to grow again, take a spade and dig them fairly out. This will be easily done, because the root has been cut off at the thickness of the turf, and was turned when the ground was dug. True, it will leave holes in the turf, but it must be done, if it takes days to do it. The first expense in this matter is the least. Presuming, then, that all those weeds which spoil a lawn, if allowed to grow, are scooped out (we mean such as docks, dandelions, sow-thistles, sorrel, &c.), let there be a dressing of road sand, with which all the holes will be filled up level by common bush harrowing, and every mark left in the joinings of the turf obliterated. As soon as there is the least growth in the grass, let it be heavily rolled one day and mowed the next, and, by these means, a coarse, uneven meadow, to say nothing of a neglected lawn, will be made all that can be wished of a dressed ground. But machine mowing, while it takes much less time, requires to be done regularly, and after the new lawn, as it were, is once properly levelled and established, no more rolling is wanted than that which the instrument itself gives at the time of mowing, for it is in itself both scythe and roller. Incessant cutting would make almost any coarse lawn smooth in time, but by the means we have pointed out, it will be good the first season. Although we have advocated the machine, which may be had, to cut and roll sixteen inches wide, for about five

pounds ten shillings, and, up to twenty-five inches wide, for nine pounds, to be drawn by a donkey or pony, we are not disposed to quarrel with those who use the scythe, because it is the pride of some men, and no small merit, to mow clean enough to show no mark of the instrument. A sprinkling of wood ashes is of great service in preventing the growth of moss, and encouraging the growth of the finer grasses, which contribute to the beauty of the lawn. In the season when grass grows rapidly, the lawn should never go more than a week without mowing, and now comes machine *versus* scythe. The former can be used when the grass is dry, the latter only when it is damp or wet; the former can be used all day in hot weather, and we know that the latter can only be used an hour or two in the morning; the former collects the grass as it is cut, the latter leaves it on the ground, and it is of the highest importance that it be removed immediately, for, if it remains, it discolors and injures the grass; the machine can be used when only half an inch of grass has to be cut; the scythe can hardly make an impression until the lawn has got rough; in the one case, it is scarcely free of the marks before it is wanting another cutting; in the other case, the lawn is always alike, because the machine leaves no marks, and may run over it in a short time, as often as we please. If the grass is apt to get brown during the hottest weather, anticipate the change in time, and water it with diluted ammoniacal liquor or liquid manure, but be prepared to cut it soon after, for the growth will be rapid. In any extent of lawn a water cart is the best, but next to that a garden engine, for it must be wetted all over, and hand-watering is too laborious. It may be observed that all this involves too much trouble, and requires too much labor, but you have the choice of evils, either the lawn must get brown, or you must incur the cost of keeping it green. This is, however, an extreme case, and not one place in a hundred, if it be properly drained, will require it. Most of the lawns which burn in summer are too near the clay or gravel, for they both have the same effect. A good spit of earth between the grass and either of them, will generally keep green, but not always. If clay, the only cure is draining. If gravel, you must use liquid manure, or ammoniacal water—which has the same effect—to preserve the grass in color and health. The edges of the lawn must be clipped close to the proper outline, until it spreads unequally, when the edging-knife must be resorted to.

[The above, from the *Midland Florist* (England), applies with equal force to this country, and to the use of Swift's Lawn Mower.—Ed.]

HINTS FOR YOUNG GARDENERS.

FROM THE FRAUENDORFER BLATTER.

CULTIVATE nothing carelessly. Whatever is worth cultivating at all, is worth cultivating diligently and well.

Many kinds of garden seeds lose their germinating power when more than a year old. Therefore, be careful to sow fresh seed whenever practicable.

But melons, cucumbers, pumpkins, and members generally of this family, are an exception to this rule. The seeds of these should not be sown till after they are several years old. Plants from old seeds produce less foliage, and more fruit. [Doubtful, Ed.]

The seeds of most kinds of weeds retain their germinating power for an almost indefinite period. Hence, weeds should always be carefully gathered and burnt, as the most effectual mode of destroying the seeds.

The first leaves which appear on the surface (in many cases called *cotyledons*),

are, for the time, the sole supporters of the life of the young plant. They sustain it till it has formed roots, and, if prematurely destroyed, or much injured, the plant will die.

Seeds will not germinate unless exposed to the influence of moisture, air, light, and heat. They should, consequently, not be covered too deep, or they may fail to sprout.

It is, in ordinary cases, not profitable or advisable to raise your own seeds. Your soil and your time should be of more value and importance to you than the cost of new seeds. Besides, such as is raised on a soil different in composition from your own, will most probably thrive better.

The roots of very young plants are rarely hardy enough to bear transplanting well. The best time for transplanting seedlings, is when they have formed five or six leaves; because, at about that period the young roots and radicles are able to perform their proper functions more successfully than earlier.

Roots essentially require the admission and presence of atmospheric air. The surface soil should, therefore, always be kept loose and porous, and clayey ground should be frequently broken up or stirred in dry weather, or whenever it has become parched or baked.

When a bed has been dug over in the fall, it should be suffered to lie, during the winter, in the roughest condition in which the spade has left it. A greater amount of surface will thus be exposed to the effects of frost, and the ground become more thoroughly pulverized in the spring.

Frost acts with greater severity on roots or tubers which have been pulled or dug up, than on such as remain in the ground. Hence they should either be effectually protected, or remain altogether undisturbed.

The various kinds of plants extract different substances from the soil; and a well-chosen rotation of crops is consequently highly advantageous, and deserves attention.

Leaves absorb moisture from the atmosphere, and again part with it; they inhale and exhale air, and thus constitute the more important organs of plants. If injured or removed, the entire plant suffers accordingly.

The pores of the leaves, through which air and moisture are transpired, are exceedingly minute, and very liable to be closed by dust. The foliage of stove plants should therefore be frequently well sprinkled with pure water, to prevent or remove obstruction to healthy action from this cause.

In their natural condition or growth, the leaves and branches of plants rarely touch or cross each other. We should hence learn not to crowd our plants close together, or to place even a single plant in a confined position, where its leaves and branches have not room to expand or develop themselves fully and freely. Air and light are as essential to their vigorous and healthy growth as earth and water.

The falling off of the leaf of a newly-set cutting, is an indication that the cutting has begun to grow. But, if the leaf wither and dry without dropping from the stem, it is an evidence that the plant lacks vigor to effect the natural process of shedding the leaf, and will probably fail to grow.

When bushy plants produce an abundance of foliage with few buds or blossoms, they should either be transplanted into a poorer soil, or some of the principal roots should be pruned off.

Drying winds are injurious, as they rob the leaves of plants of moisture more rapidly than it can be supplied by the roots. Plants need as careful protection from such winds as from frost.

When a grass-plot becomes pervaded by moss, apply some fine, rich manure to

the surface. This will reinvigorate the grass, and enable it to subdue and expel the intruder.

In pruning, always make the cut *towards* yourself. Enter the knife on the side opposite the bud, a little above its base, and cut through, sloping to just above the top of the bud. The vitality of the terminal wood will thus be preserved, and the wound speedily heal over.

Leaves grown in the shade, or in the dark, do not attain the depth of color, nor the harshness of taste which mark such as are fully exposed to light and air. Gardeners take advantage of this when tying up lettuce or endive, and earthing up celery, to *blanch* them.

Light is essential to enable flowers to develop their colors fully. Hence the proper place for flowering plants, in chamber culture, is as near the window as possible.

All plants have naturally a resting season. Seek to ascertain the period peculiar to each particular species you cultivate, and transplant them only at that time.

Plants are in their most vigorous state of growth at the time of flowering, and should not then be transplanted, as they would very likely suffer much from the operation.

But the period of flowering is much the most suitable for making cuttings, because the tendency to root formation is then most active.

Plants in flower have all their juices in the most perfect state; and this period should be chosen to gather such as are noted for aromatic or medicinal qualities.

Excessive blooming greatly exhausts the plant. Hence, all flower-buds should be gently pinched off ere they open, from newly-rooted cuttings as well as from weak or sickly plants, to preserve the strength of the stalk.

Few plants can well endure sudden great changes of temperature; and none should therefore be transferred directly from the hotbed, or hothouse, to the open air. Warm weather should be chosen for the removal of plants, even from an orangery or cold frame, to the garden.

All withered and faded flowers should at once be removed from perennial plants, unless it is desired to raise seed. This will tend greatly to prevent the premature exhaustion of the plant.

To secure a succession of bloom in a rose-bush, prune back some of the shoots to their eyes as soon as you see that they begin to swell; and defer the pruning of others till the leaves have become expanded. In the first case, the eyes will break into bloom early, whilst the latter will not begin to swell till the others are in full leaf, and consequently bloom later.

By properly checking the growth of a plant, you can increase the vigor of the leaves and the size of the fruit. With this view, gardeners pinch off certain sprouts in beans, melons, cucumber vines, and similar vegetables. The entire art of pruning, so far as it has any real value or importance, is based on this principle.

As a general rule, the smaller the number of fruits on a healthy, vigorous plant or tree, the larger the size, and the more perfect the taste. It is hence proper, in all cases, to *thin out* moderately. But a single gooseberry left on a bush, or a single cluster on a large grape-vine, however *monstrous* be its development, is only evidence of a sound principle misapplied or carried to extremes.

Fruit should always be gathered in dry, calm, weather. It should be removed by hand, and carefully placed in a basket, so as not to bruise it. Roughly handling it may, and probably will, cause it to rot.

If, when any of my fruit-trees are in blossom, I suspect that the soil does not contain the requisite amount of moisture needed by the roots, I dig a trench around the tree about eighteen inches from the stem, and pour into it four large

bucketsful of water, and immediately return the removed ground. This enables the blossoms to resist the effects of drying winds; the fruits set perfectly, develop rapidly, and are less liable to the attacks of insects. The result is, that the fruit does not subsequently drop. I have cherry-trees that formerly bore fruit only every alternate year, which are now annual and abundant bearers, in consequence of this treatment.

C. V. GOLDBACKER.

According to the researches of Messrs. Schübler and Kohler, of Tübingen, white flowers are the most numerous in nature, and, at the same time, the most fragrant. Red flowers come next in order.

NOTES FROM THE MOUNTAINS OF NORTH CAROLINA.

BY WM. BEAL, CHEROKEE, N. C.

DEAR HORTICULTURIST: Knowing that you feel an interest as well as many of your readers, in all that is lovely to the eyes, pleasant to the senses, and refreshing to the various wants of man, I hasten to try to bring some of our sweets and beauties to your notice, although in a rough and rude manner. We have a difference of climate in this county (Cherokee) of one month in the spring, so that, when I left peas in bloom at Murphy, on the 10th of April, I found snow on the mountains, in many places to the depth of from two to three feet; and, on the 12th of April, in some sheltered coves, I found the *Claytonia Virginica* just opening its blossoms to cheer the eye of man.

The scenery in the mountains is grand and picturesque, combining many of the features of Switzerland, with a summer climate as beautiful as that of Italy, and occupying a neutral ground, both mountains and valleys, between the malaria and fevers of the South, and the consumption and rheumatism of the North—a climate where the lowest extreme of last winter failed to sink the mercury more than three degrees below zero, and the extreme heat of the summer does not often exceed 96°, and where, when our railroads are completed, the citizens of Cincinnati and New Orleans can meet the citizens of Charleston, and enjoy a picnic, and almost return home the same day. This section of country is yet quite new, and the forests are as yet unbroken for many miles in extent, affording a safe retreat for the panther, bear, wolf, and deer, which as yet furnish meat for the few red men that remain among us, and the adventurous hunter or squatter. The flora of this section has as yet been almost entirely neglected, and I find many rare plants, some of which are entirely new to me. The *Kalmia latifolia* is now (June 10) in full bloom, and, in one place, the side of the mountain is a complete mass of the bloom of McDowell's *Rhododendron*, but it will be still more beautiful in a week more. The ferns and lichens embrace quite a variety, some of which are entirely new, or undescribed by botanists, so that here a wide field is open for investigation. There is here, in the mountains, a variety of blackberry, which, I think, will rival the New Rochelle, or any other known variety. It is quite thornless, and is now just in bloom; the canes are strong growers, and very productive when the cattle do not eat them up, which they are quite apt to when they can get at them. The fruit I have not seen, but am told that it varies from one and a half to two inches in length, and one inch in diameter; seeds quite small in large pulp, and very sweet; so that it will be a good acquisition to all of our gardens.

We have also a variety of red raspberry that is new to me, and, in some respects, resembles what is called thimbleberry in Northeastern New York and Canada, but differs from it in the form and color of the fruit. The canes are large, and branching flowers of a pinkish color, but not very profuse, and the bark has a rosyish

appearance ; fruit, light red, and very large, frequently an inch, or an inch and a quarter in diameter, and very delicious.

Strawberries have been quite plentiful ; they commenced ripening about the first of May, and continued with us about three weeks ; we as yet have none of the cultivated varieties amongst us, but they will succeed, and this section will eventually compete in the markets of Charleston and Cincinnati, in almost every variety of fruit. The cold of last winter has not affected our fruit crop in the least, injuriously, and now our peach and apple-trees are groaning beneath their growing loads of fruit.

We have some good collections of apples, thanks to the exertions of Mr. McDowel and others, but the field of pear culture is, in this county, untried, and a few of us are uniting to try some varieties of pear on quince as well as standards ; also cherries and plums. And we would consider it quite a favor if you would recommend a half-dozen of each that would be suitable for our climate, including dwarfs and standards. We have a large variety of wild grapes, some of which, I think, will prove worthy of cultivation, especially one variety of white summer grape, which, however, is quite scarce. As regards the size of grape-vines, we can compete with almost any place, as one, that is known as the big grape-vine, measures three feet in circumference, and spreads majestically over a number of the giants of the forest, binding their crowns together in one luxuriant mass of foliage.

ON THE GENUS CORREA.

BY EDGAR SANDERS, ALBANY, N. Y.

It is worth inquiring, whether the great demand for cut flowers in winter, in this country, does not cause a too exclusive selection of plants for that end alone, thereby often losing the great beauty of others, because not so well adapted for that purpose. So long as cut flowers are in demand, the gardener, however fond he may be of plants themselves, must use means best calculated to obtain them ; but there are few places so close run to supply the demand, that a few plants may not be cultivated to advantage, sacred from the murderous knife, and much to the general appearance of the house.

Plants grown wholly with this idea, should be of the most faultless growth and shape, and placed in the most conspicuous parts of the house as *starers*. Two or three distinct kinds of the charming New Holland genus *Correa*, are admirably adapted for this purpose, being in flower for the greater part of the time they will occupy the greenhouse, and at their greatest perfection in mid-winter. Under good management, they are exceedingly quick growing plants, especially a variety called *Lindleyana*, forming, in twelve months, respectable sized flowering plants, and, in two years, good-sized specimens. The quality of the flowers of this genus, under the hand of the florist, has greatly improved, and there are quite a large number of varieties in cultivation. *Harrisii*, though raised many years ago, is still a good one ; this, and the one named above, and the old *speciosa*, is enough for small collections. It is quite common for nurserymen to work the good kinds on *alba*, but they seldom make fine plants, and often grow very slow—a plant from a cutting, even if very small, growing more in one summer than a worked one will in several.

The flowers are drooping, and require to be tolerably close to the eye to be seen effectually ; hence, a bush inclining to a pyramidal shape, is to be preferred. Small trees or standards would look well, but it will take a good long time to

get them any size on their own roots, as none of the showy kinds swell to any size in the stem.

Propagation and Culture.—Most of the kinds grow freely enough from cuttings placed in sand, under a bell-glass or miniature-frame, if taken off soon after they have done flowering, or, indeed, at any time after January, providing a slight heat above that of the greenhouse can be given them. But, as nice little plants can be got for two or three shillings each, time is saved by buying them. For the first year, we prefer to plant them out in the open soil, as such small plants, except proper pits or very low houses are at hand, have their growth checked so much by the constant dry and wet, wet and dry process inseparable when in such small pots. Another thing, too, is, that small plants, when in pots, have to be shaded in summer, which is detrimental to the health of most all hard-wooded plants. When planted out, the growth is at least double that of those in pots, however well they may be attended, besides being hardly any trouble, further than occasional waterings, and stopping the young shoots. A one or two light frame, prepared and filled every summer with various little hard-wooded plants, in this way, would always keep the place supplied with a new stock, to replace those lost by accident or other causes. The main thing to attend to in preparing the soil, is to have enough of vegetable soil (that from the woods is to be preferred), and a good turfy loam, about equal parts of each, and at least a sixth of white sand and charcoal well incorporated with it. This will grow this plant well, whether out or in pot. The surface of the bed should not be above that of the surrounding ground, and lights should be in readiness to put over them in case of very heavy rains. In the fall, as the roots will have spread somewhat, a little care is necessary in taking them up, to break them as little as possible, although it is unnecessary to lift too much of a ball with them, trusting rather to search for fibres; sufficient ball should be secured, if possible, to nearly fill the pot experience will point out the plant should occupy. They will require no more potting till spring, and, flowering over, they should be then cut in pretty close to the desired shape, and, about the 20th of May, repotted into two sizes larger pot, and plunged in the open ground for the summer. A few of the shoots likely to grow wild, will occasionally want stopping, otherwise nothing farther is to be done till housed.

The only deviation to be observed each succeeding spring after cutting back, is, when broken again, to reduce the ball an inch or two, and repot into one or two sizes larger pot. This genus is not liable to get sunstruck in summer, and will last many years.

COLONEL WILDER'S ADDRESS,

BEFORE the American Pomological Society, at its fourth session at Rochester, in September, is an example of how much may be said in a few words. An early copy enables us to make extracts from the more striking portions.

The President alludes to the fact that it is now only about a quarter of a century since the establishment of the oldest horticultural society in America; then the fruit crop of the country was not deemed worthy of a place in our national statistics; now it exceeds thirty millions of dollars annually; then the sales of fruit-trees were numbered by hundreds, now by hundreds of thousands.

Mr. Wilder's remarks on seedlings, &c. :—

"When Van Mons, the patient and skilful observer, was successfully experimenting in Europe, our Cox, Prince, Lowell, Dearborn, Manning, and others, had commenced their course, and obtained some good results. Then most of our pears were propagated on suckers

taken from the forest; now we see millions of young vigorous trees cultivated, sold, and planted, in all parts of the Union, and where twenty years since not a single specimen of the *Pyrus* was to be found. The public no longer ridicule the man who plants a tree with the hope of gathering its fruit with his own hands, or the saving of seeds to improve the quality of his fruits. True, Van Mons was ridiculed all his life, and only appreciated by such pioneers as Davy, Poiteau, Diel, and Drapiez. His nurseries were thrice destroyed, as wild, worthless thorn-bushes, under the false pretence of "public utility." This was an irreparable loss, for however much his system be discussed and distrusted, it is still true that the results of his experience have been most beneficial to the world.

"An honorable member of this Association and myself, have in trust many of the seedlings of that great master of pomology, which have not yet fruited. We have those of the eighth generation, which, from vigor, beauty, and signs of refinement, give promise of superior character, and seem to confirm his doctrine of improvement by successive reproduction. And while we are anxiously awaiting the farther and ultimate results of his theory, others on this side of the Atlantic are zealously engaged in hybridization and experiments which cannot fail to be of immense advantage to the scientific and practical cultivator.

"This progress should cheer us onward. No other country, in extent and variety of soil and climate, is so well adapted, or offers so great advantages to the pomologist. Not only does our correspondence from abroad testify to the truth of this statement, but our rapidly extending domain continually develops new facts in confirmation of this sentiment.

"By the reports from individual fruit growers, and from associations, it appears that some varieties of the pear succeed equally as well in the extreme south part of our Union as in the north. A gentleman from Oregon Territory recently informed me that settlers there had already provided themselves with extensive orchards, and from which they gather fruits of great size and excellence. He also makes a similar report in relation to Washington Territory, and instances among others an orchard of one hundred acres, which is now yielding a large annual income to its proprietor.

"A letter from the Vice-President of this Society for Utah, on the borders of the Great Salt Lake, expresses the hope that it will not be long before that region shall be a successful rival of other parts of the Union in variety and excellence of its fruits. Similar accounts are received from the district of Santa Clara.

"Another communication, from an officer of this Society in California, assures me of the great progress in our cause in that State, and pledges a full report of its horticultural exhibition for our *Transactions*. One of my neighbors who went to California in 1854, and now residing in Napa City, writes: 'Such is the rapid growth of vegetation in that district, that apple-trees, from seed planted in the spring of 1853, and budded the same year, yielded fruit in the autumn of 1855.' He says: 'I wish you could take a look at our peach orchard, loaded with three to four thousand baskets of fruit. You could hardly believe that the trees had made all their growth, and were most of them raised from seed, since I came to California, February 1, 1854. The crop from this orchard is now (July 18, 1856) going to market, and, we expect, will amount to between ten and twenty thousand dollars.' The proprietor of that crop has called on me within a few days, confirms these statements, and reports that the crop and prices fully realized all anticipations.

"Such is the zeal now manifested in the cause of pomology, and such are the facilities for intercommunication, that we are continually receiving valuable contributions from all parts of the country and the world."

Proceeding onward, gracefully, the President says:—

"In my last address, I called your attention to the importance of raising new and improved varieties from seed as the best method of increasing and preserving our supply of choice fruits. Whether the theory of the running out of varieties be true or false, so thoroughly am I convinced of the great practical utility of this recommendation, that I feel especially desirous, while I have the opportunity, of encouraging you to perseverance, and of guarding your minds against exposure to failures.

"A false doctrine prevails among some, although founded on the theory of Van Mons, *'that scions taken from seedlings, and grafted into stocks, however strong and healthy, will not yield fruit earlier than it may be obtained from the mother plant.'* Adopting this theory as true, many cultivators have been discouraged on account of the length of the process. Whatever may have been the experience which called forth this theory from its learned author, in the localities where it originated, or where it has been advocated, my reading and personal observation constrain me to question its truthfulness; certainly its application to our own country. For instance, the fact is familiar to you all, that scions of the pear come into

bearing, when grafted on the quince, earlier than on the pear stock. This is believed to result from the early maturity of the quince, which, while it does not change the variety of the pear, imparts its own precocity thereto. We realize a corresponding hastening to maturity when the scion is grafted into a pear-tree which has also arrived at maturity; especially is this to be expected when the stock is in itself one of a precocious character. If any facts seem to oppose this doctrine, they may be regarded either as exceptions to the general law, or as the results of locality and cultivation.

"The physiological principle of the vegetable kingdom under which this doctrine obtains is, that the bud contains the embryo tree, and that the strong or precocious stock constrains it to elaborate more material into wood and foliage, and thus promotes both growth and fruitfulness.

"Common sense as well as common observation, confirms this statement. Witness the pear, which we have known to fruit the fourth year from seed, when grafted on the quince. We know a seedling from the Seckel pear, grafted on the Bartlett, which bore the present season, and is only four years from the seed. The Catharine Gardette, raised by Dr. Brinklé, was brought into bearing by grafting on the quince in five years, while the original seedling, in all these instances, are only three to five feet in height, and will require several additional years to bring them into bearing. Is it reasonable to suppose that a seedling pear, which, in two years, in a given location, attains the height of one or two feet, with but few branches, will fruit as early as a scion from the same seedling when grafted on a strong tree, which elaborates and assimilates through its abundant branches and luxuriant foliage, ten times the amount of all the elements constituting growth and maturity?"

He continues:—

"In reliance upon natural fertilization, I would still encourage the continual planting of the seeds of choice varieties of all kinds of fruit, in the belief that new and valuable varieties may thus be obtained. By these various processes, we shall have continual accessions to our collections of such choice fruits as the Beurré Clairgeau, Beurré d'Anjou, and Doyenné Boussock pears. Let nothing discourage you in this most hopeful department of pomology. Go on, persevere.

"These are triumphs worthy of the highest ambition, conquests which leave no wound on the heart of memory, no stain on the wing of time. He who only adds one really valuable variety to our list of fruits, is a public benefactor. I had rather be the man who planted that umbrageous tree, from whose bending branches future generations shall pluck the luscious fruit, when I am sleeping beneath the clouds of the valley, than he who has conquered armies. I would prefer the honor of introducing the Baldwin Apple, the Seckel Pear, Hovey's Seedling Strawberry—ay, or the Black Tartarian Cherry, from the Crimea, to the proudest victory which has been won upon that blood-stained soil."

We anticipated from the speaker, that he would give in this speech the results of his latest experience in keeping fruit, and the construction of fruit-rooms, and are not disappointed.

He says:—

"The proper construction and management of these is, therefore, commanding the attention of pomologists, both in this country and in Europe. Their success is found to depend on a perfect control of the temperature, moisture, and light. After having built and managed four fruit-rooms, upon different plans, I am of opinion that a proper equilibrium of temperature and moisture cannot ordinarily be obtained without the use of ice. The preservation of the apple is less difficult than that of most other fruits, and is tolerably well understood by our farmers. Still, how few specimens, even of this fruit, are brought to our spring market in a fresh and perfect condition! The art of keeping the pear, and fruits of delicate texture, is much more difficult; and it is to these I particularly refer.

"Having heard of the great success of Mr. Schooley, of Cincinnati, Ohio, by his celebrated discovery for the preservation of meats, I opened a correspondence with him with respect to the application of the same process to the preservation of fruits. He subsequently visited me at Boston, and advised as to the construction of a fruit-room upon his principle. This I have found, during the last winter and the present summer, to operate in accordance with his statement, as illustrated by Professor Locke, in his 'Monograph upon the Preservation of Organic Substances.' By his plan, the temperature and moisture of the fruit-room, and consequently the ripening of the fruit, may be perfectly controlled. One gentleman informs me that he kept strawberries, in a fruit-room constructed on this plan, from June 1 to the 20th, in perfect condition for the table; and he entertains no doubt of its complete success in the preservation of apples and pears indefinitely. Mr. Schooley writes me that, in the

month of June, he received several barrels of Bellflower apples, which had been kept for eight months, that were sold in that market at two dollars and twenty-five cents per bushel. The remainder out of eight hundred bushels was sold, at home, at three dollars per bushel. These apples were purchased, at random, from the strolling wagons passing through the streets of Dayton, and were more or less bruised by careless picking and transportation. My own experience corresponds with these statements.

"The construction of these rooms is simple. All that is required is walls made of non-conducting materials, with an apartment for the ice above the fruit-room, and with Mr. Schooley's descending flues for the cold air, so as to preserve an equable temperature and moisture, and to hold the ripening process in suspense. The air, by passing over the ice, is deprived of its moisture, and, being cold and specifically heavier than the surrounding atmosphere, falls through his descending flues, and, by a ventilator, escapes on one side of the room, thus creating a temperature not only cool, but dry. This principle, I am informed by a distinguished member of the medical faculty, may be applied to the construction of hospitals with great advantage, so that the air may be kept at a uniform temperature and degree of humidity. For a more particular account of this process, I refer you to Professor Locke's *Monograph*, and to the inventor's letter, herewith submitted.

"In these remarks, our object has been to provide against the maturing of fruits until the season when they are wanted for use. Care should, however, be exercised, especially with the pear, and more delicate fruits, not to reduce the temperature much below 45° of Fahrenheit, lest the vital principle of the fruit be destroyed, and the flavor lost."

Colonel Wilder differs somewhat from Jeffreys, in our last number, regarding the value of the pear as a dwarf, and, as we desire nothing but the truth, we give his views on the subject:—

"Pears upon the quince should be planted in a luxuriant, deep soil, and be abundantly supplied with nutriment and good cultivation. They should always be planted deep enough to cover the place where they were grafted, so that the point of junction may be three or four inches below the surface. The pear will then frequently form roots independently of the quince, and thus we combine in the tree both early fruiting from the quince, and the strength and longevity of the pear stock. For instance, of trees of the same variety, standing side by side in my own grounds for ten years, and enjoying the same treatment, those on the quince stock have attained a larger size, and have borne, for seven years, abundant crops, while those upon the pear stock have scarcely yielded a fruit. We have, also, others on the quince, which, twenty-five years since, were obtained at the nursery of Mr. Parmenter, where now is the most populous part of the city of Brooklyn, N. Y., and which have borne good crops for more than twenty years, and are still productive and healthy.

"That the introduction and cultivation of the pear upon the quince has been a great blessing, I entertain no doubt, especially in gardens, and in the suburbs of large towns and cities. And as to its adaptation to the orchard, I see no reason why it should not succeed well, if the soil, selection and cultivation be appropriate. A gentleman in the eastern part of Massachusetts planted, in the years 1848 and 1849, as many dwarf pear-trees as he could set on an acre of land at the distance of eight by twelve feet, and between these rows he planted quince bushes. In the fifth year from planting, he gathered one hundred and twenty bushels of pears, and sixty bushels of quinces. Of the former, he sold seventy bushels at five to six dollars per bushel, and he now informs me that he has lost only three per cent. of the original trees, and that the remainder are in healthful condition."

An important suggestion is contained in the following paragraph. We hope to live long enough to see it thoroughly carried out:—

"I anticipate that, at no remote period, we shall feel the necessity of a National Pomological Institute, with an Experimental Garden, where all the varieties true to name may be obtained, where all sorts may be thoroughly tested, and distributed to the members of the Society, and thus relieve the pioneers in American pomology from large expenditures and much personal inconvenience."

In conclusion, the author breaks out eloquently, thus:—

"It is estimated that, in the nurseries of Monroe County, there are thirty millions of trees, and that, in the whole of the nurseries of Western New York, commencing at Onondaga County, there cannot be less than fifty millions, besides the great number which has already been sent out to adorn your valleys, and crown your hill-tops. These are the precious fruits which have been gathered in this locality. Add to them the progress of this science in

various other sections of our Union, and what a charming prospect does our fair land present!

"**FELLOW ASSOCIATES:** In view of this auspicious progress, let us compare our experience and results; let us stimulate each other to still greater exertions for the advancement of our common cause. Let us endeavor to disseminate the knowledge of the few among the many, that we may improve the public taste, add to the wealth of our republic, and confer on our countrymen the blessings of our favorite art. Thus shall we make other men happy, and keep them so—render our own homes the abodes of comfort and contentment, and hasten the time when the garden shall feel no blight, the fruitful field laugh with abundance, and rivers of gladness water the earth."

AMERICAN POMOLOGICAL SOCIETY.

The sixth biennial meeting of the American Pomological Society was held in Rochester, September 24-26. Nearly all portions of our extended country, from Maine to California, were represented (there being delegates from *nineteen States*), and we heard it repeatedly remarked that a more respectable and intellectual body of men had never met in Rochester.

The Genesee Valley Horticultural Society held their annual exhibition in connection with the American Pomological Society and the Western New York Fruit Growers' Association, and the show of fruits and flowers excelled anything we have ever before witnessed. Had it not been for the partial failure of the apple crop in the West, the display would have been truly gorgeous; but what was lacking in apples and peaches was made up in pears. The extent to which pear culture is attracting the attention of fruit growers in all parts of the Union, was fairly indicated by the large number and excellence of the varieties shown. The veteran pomologist, and President of the Society, Marshall P. Wilder, who has, in his grounds at Dorchester, Massachusetts, over *one thousand different varieties of pears*, exhibited one hundred of his best new sorts; and that the Messrs. Hovey & Co., of Boston, exhibited 250 varieties. From this city, the show of pears was very large, and, in size, color, and smoothness of skin, unsurpassed. Messrs. Ellwanger & Barry, Hooker & Co., Frost & Co., and other leading nurserymen of Rochester, exhibited largely, as did also one or two amateurs. John Hampton, gardener to Selah Matthews, Esq., showed thirteen varieties of pears—among them a well-shaped Bartlett, weighing twelve ounces—and a fine collection of greenhouse plants, roses, verbenas, grapes, &c. J. Salter, gardener to J. F. Bush, Esq., exhibited eight varieties of exotic grapes. Mr. Messer, of Geneva, N. Y., also showed several varieties of splendid exotic grapes—among them some enormous bunches of Muscat of Alexandria. A dish of pears, of the Louise Bonne de Jersey and Duchesse d'Angoulême varieties, sent by President Pierce, from the "People's Garden" at Washington, D. C., showed the difference of the season here and at the South. They were fully ripe, while specimens of the same varieties grown here were quite green and hard. Dr. Grant, of Newburgh, N. Y., had a fine collection of native grapes, among them the Delaware—perhaps the earliest and best flavored native variety in cultivation, but lacking size—and a new seedling white grape, called Rebecca, which promises to be an acquisition. There were two fine collections of apples from Iowa, and one from North Carolina, containing many varieties of Southern apples but little known at the North.

The American Pomological Convention was welcomed to the city by the Mayor of Rochester, and, after some preliminary business, the President of the Society, Hon. Marshall P. Wilder, delivered a most eloquent and interesting address (which will be found on another page.—Ed.)

After the conclusion of the address, the convention proceeded to business. The Nominating Committee reported the following list of officers, which were unanimously elected:—

President—Hon. MARSHALL P. WILDER, of Boston.

Vice-Presidents,

S. L. Goodale, Maine,	Hartman Kuhn, Jr., Penna.,	Thomas Affleck, Mississippi,
H. J. French, New Hampshire,	William C. Wilson, Maryland,	D. W. Yandell, Tennessee,
Fred. Holbrook, Vermont,	E. Tatnall, Jr., Delaware,	Lawrence Young, Kentucky,
Samuel Walker, Massachusetts,	Yardley Taylor, Virginia,	A. H. Ernst, Ohio,
Stephen H. Smith, E. I.,	Joshua Lindley, N. Carolina,	H. L. Ellsworth, Indiana,
A. S. Monson, Connecticut,	A. G. Summer, S. Carolina,	C. R. Overman, Illinois,
Charles Downing, New York,	Richard Peters, Georgia,	Thomas Allen, Mississippi,
William Reid, New Jersey,	C. A. Peabody, Alabama,	Rev. C. H. Byington, Ark.,

B. F. Nourse, Florida,
Robert Avery, Iowa,
J. C. Brayton, Wisconsin,
Simpson Thompson, California,

Joshua Pierce, D. C.,
Edward Hunter, Utah,
Hugh Allen, Canada East,
James Dougal, Canada West,

Amasa Stewart, Minnesota,
C. B. Lines, Kansas,
Henderson Lewellyn, Oregon.

Secretary—P. Barry, of New York.

Treasurer—T. P. James, of Pennsylvania.

The President, on thanking the Society for the honor conferred upon him, stated that he had fully determined not to accept the office, but could not find it in his heart to decline the trust imposed upon him by the unanimous voice of his friends.

After the reports from the State Fruit Committee, and from the Committee on the Downing Monument, the Society proceeded to revise the catalogue of fruits.

Of the list of pears for general cultivation, the following varieties were proposed for rejection, but retained after discussion: Ananas d'Ete, Andrews, Beurré d'Arenberg (decided that it should have "high cultivation" attached to it on the list), and Fulton. The list previously recommended for trial as promising well, was then taken up, and the following varieties were transferred to the list for general cultivation: Doyenné Boussoch, Beurré St. Nicholas, Howell, and Sheldon. Duchess de Berry, at the suggestion of Mr. Walker, had "d'Ete" added to its name, to denote its early ripening.

The following varieties were recommended as "promising well": Vicar of Winkfield, Hosenschen, Philadelphia, Fondante Comice, Niles, Emile de Heyst, Beurré Kermes, Conseilleur de la Cour, Comtesse del Aost, Beurré de Langelier, Doyenné d'Alencon, Beurré d'Albret, Delicieux de Hardenpont de Belgraque, Delicieux de Hardenpont d'Angers, Fondante de Charnesse, Osband's Summer, Beurré Nantais, Dix. The Bellissime d'Ete was decided to be unworthy of cultivation. Bleekers's Meadow and Passans du Portugal were removed from the "rejected list."

The Convention then proceeded to revise the list of pears recommended for culture on the quince stock. It was proposed to reject Belle Lucrative and Long Green of Cox, but, after discussion, it was decided to let them remain on the list. Beurré d'Arenberg and Triomphe de Jodoigne were stricken from the list.

Mr. Field called attention to a series of articles published lately in the *Horticulturist*, condemning the culture of pears on the quince stock. He thought people were likely to be misled by them, and wished the facts to be known. He had examined the pear-trees in the grounds of the author of those articles, and found that he knew little about their cultivation. The point of union between the quince and pear was three inches above ground, and, although they were receiving care now, it was evident that, until latterly, they had not been pruned or cared for in any way.

Mr. Hodge thought there was some prejudice in the public mind against dwarf pears. He thought it was caused by nurserymen having sent out varieties, like the Bartlett, that will not succeed well on the quince. Nurserymen should confine themselves, for the present, to twelve or fifteen varieties that are known to be fine growers on the quince.

Mr. Phoenix thought too little attention had been paid to pruning, and this was the great cause of the difficulty.

Mr. Barry wished the fact to be generally known, that a regular annual pruning is necessary to the success of the pear on the quince.

The President said twenty years' experience and observation had convinced him that many varieties succeeded as well, and were as durable on the quince root as on the pear. Has seen trees from twenty to twenty-five years old, healthy and fine; and Mr. Berckmans, now present, has seen them, in Europe, over one hundred years of age, in health and vigor. It is probable, however, that in these cases roots were thrown out above the graft.

After an interesting discussion of several varieties of apples on the list for general cultivation—all of which were retained—the Convention took up the list of apples which "promise well." The following varieties were removed from the list that "promise well" to the list for "general cultivation": Benoni, Hawley, Primate, and Rambo. The Ladies' Winter Sweet was decided to be a misnomer for Ladies' Sweet, by an error on the part of the reporter, and was expunged from the list.

An interesting discussion took place on the Tompkins County King. Mr. Mattison, of New York, stated that it had been in cultivation for fifty years, and was a general favorite wherever known. It usually sold at double the price that could be obtained for any other variety. It generally bore every year, and had the peculiarity of making a fine growth while bearing a heavy crop. The fruit should be gathered early, when it would sometimes keep till July. Mr. Sylvester, of Lyons, N. Y., regarded it as an excellent fruit, but it was

not so fine-grained as some other varieties. There were several spurious sorts. He had known the Ribston Pippin sold for it. Mr. Bateham, of Ohio, had found it to ripen in December, and it proved of second-rate quality. H. E. Hooker considered it first-rate, but not "best," and would like to see it further tested. J. J. Thomas remarked that his father had told him that after removing the skin from this apple, he could scarcely distinguish it from the Swaar. Mr. Saul had heard the same remark made. E. C. Frost remarked that the Newark King was a totally distinct variety, ripening in the fall. It was decided to place it on the list that promise well, under the name of King of Tompkins County. The Wagener, at the suggestion of E. C. Frost, was also added to the list of fruits that promise well.

The discussion on grapes was quite animated, and, at one time, there was some danger of a warm discussion of the Temperance Question, had not the President wisely ruled all such remarks out of order.

The Delaware Grape was highly recommended by some gentlemen. Mr. Prince was of opinion that it would prove to be the most delicious native grape, except, perhaps, the Souperpend of the South. Dr. Grant had grown it for three years, and found it perfectly hardy. Mr. Downing considered it one of the finest native grapes, and said that it was very hardy with him. Dr. Brincklé saw it first in 1850, and thought it finer than any native grape that he knew, but had doubts of its being a native; Mr. Longworth said it was not. Mr. Ernst stated that Mr. Longworth had been mistaken in regard to this grape, and was now satisfied of its American origin. Mr. Hovey esteemed it an excellent fruit, and wished it placed upon the list of varieties that promise well. Dr. Grant remarked that it was first discovered in New Jersey, and was introduced into Ohio twenty-five or thirty years since. It was recommended as promising well.

The Rebecca Grape, Mr. Prince had no doubt, was a variety of the Chasselas family, and thought that no such grape could be perfectly hardy. Mr. Reid said that it showed no indication of an origin from the Chasselas, except some resemblance in the foliage. Dr. Grant stated that it had been exposed at Hudson for the past three years, remaining on an open trellis during the winter, and had not suffered in the least, while many other things which were usually hardy had been destroyed. Mr. Downing had seen it for three years past, and considered it perfectly hardy, though not a very strong grower. Mr. Reid said that it was the only white native variety within his knowledge, and thought it desirable, if only for that reason. Mr. Prince knew of another white variety, in Pennsylvania. It was recommended as promising well.

The President wished to direct attention to several seedlings lately originated at Philadelphia, and called on Dr. Brincklé for information in regard to them, who made some remarks upon five sorts, viz: The Emily, Clara, Brincklé, Graham, and Raabe. Dr. B. stated that the Raabe was raised from seed of the Catawba, the others from seeds of foreign sorts, and that the Clara and Brincklé were, in particular, very fine. Mr. Buist observed that the Graham and Raabe were evidently natives, but that the others were purely foreign in their characteristics. Dr. Brincklé was of opinion that all grapes originating in this country should be considered natives, whether raised from native or foreign seed. Mr. Reid considered grapes from foreign seed more liable to the attacks of mildew than those of native origin. Mr. Hovey thought that seedlings from foreign grapes would not prove hardy without some "native blood." Dr. Brincklé stated that neither of these varieties had ever been protected, nor had suffered in the least from the effects of winter; but that of many other seedlings originated at the same time, the rest had all been destroyed. The President thought that the Emily must have some infusion of "native blood," as he had found it perfectly hardy.

The Union Village Grape, Dr. Brincklé had heard from Mr. Longworth, was as large as the Black Hamburg, and quite hardy, but that there had been a mistake made in the cuttings which had been sent him, and he had had no fruit. Mr. Grant observed that it was a monstrous grower, the bunches quite large, the flavor sweet, and as good as the Isabella. Mr. Ernst remarked that it was probably an accidental seedling, and he had seen it exhibited before the Cincinnati Horticultural Society, when it was so fine as to be by many persons mistaken for the Black Hamburg. He had not had much experience with it, but considered it a fine table grape. It was vigorous, and a little earlier than the Catawba, but he thought probably not well adapted for making wine. Mr. Grant said it was a little earlier than the Isabella. The President had seen specimens which were exhibited at Boston, and considered it very promising. Mr. Cabot thought it earlier than the Isabella, but not so early as the Delaware. He had eaten it from a vine under glass, and considered the flavor very fine. The cane was very stout.

Of the Hartford Prolific, Mr. Hovey entertained a favorable opinion. Mr. Downing was much pleased with it the first year, but he had since come to the conclusion that it was not

so good as the Isabella. It was, however, ten days earlier than that sort, and not much different in quality from the Concord. Mr. Prince condemned it, in strong terms, as miserably foxy, and considered the Concord infinitely superior to it. Mr. Reid considered it utterly unworthy of cultivation, except in a cold climate, where the Isabella and others could not be ripened. He thought the Concord much superior to it. Mr. Barry concurred; he thought it entirely unfit for the table, except in cases of absolute necessity. Mr. Hovey had never esteemed it as anything remarkable, but was disposed to think it valuable for cold localities, where better sorts could not be grown. Mr. Grant thought its earliness its chief merit; he had found it to ripen a week earlier than the Concord. Mr. H. E. Hooker considered it more foxy than the Concord, but quite as good.

The Northern Muscadine Mr. Prince considered as belonging to the same class as the variety last discussed. Mr. Buist observed that it had been brought before a committee of which he was a member, and that it was greatly against his will that he remained in the room with it. The President made some humorous remarks on the disposition shown by some persons to esteem their own productions too highly, and to recommend them so frequently to others, as to become at length themselves convinced that they really were what they had represented them. Mr. Thomas had been much surprised at the pertinacity of the Shakers in recommending this grape so highly. It was, as he had frequently told them, no other than the common *brown fox*.

The Concord, Mr. Downing had found a little larger and ten days earlier than the Isabella. Mr. C. E. Frost had fruited it for the first time this year, and it had ripened six days before the Isabella. Mr. Reid had also fruited it but once; he considered it very hardy, a free grower, nearly as good as the Isabella, and a week earlier. Mr. H. E. Hooker said that it had ripened, with him, at the same time as the Isabella, and was nearly as good.

Mr. Prince remarked at some length upon the natural adaptability of this country to the culture of the grape—that it was exemplified by the fact that there were seven or eight indigenous species, and one only in the whole of Europe, and that he had been at a large expenditure of time and money in order to acclimate the foreign grape, but that he had never succeeded in a single instance—concluding by expressing his opinion that we must rely chiefly upon our native sorts, and that America was by nature destined to become more renowned for grape and wine culture than any other country in the world—that it was the “natural home of the grape, and the land of the vine!” The President was glad to hear the remarks made by Mr. Prince, and concurred with him fully. He had no doubt of the future importance of wine culture to this country, and was aware of Catswba brandy having been already purchased at \$5 per gallon, for exportation to France, for the purpose of flavoring foreign liquor.

Mr. Ernst made some remarks upon the injury which grapes had received from the extreme cold of the past winter; when Mr. Hanford, of Indiana, observed that, in his vicinity, grapes had sustained a temperature of 31° below zero, without injury.

The discussions on strawberries, raspberries, and blackberries, were exceedingly interesting, and will be given next month.

It was decided to hold the next meeting of the Association at New York, in the fall of 1858.
—*Genesee Farmer*.



EDITORS TABLE.

THE POMOLOGICAL CONVENTION, at Rochester, was well attended, and well attended to. The discussions were most interesting, and, as usual, were conducted and regulated by the able President, Col. Wikder.

The admission of fruits upon the list for "general cultivation," it will be seen by the report, has been very limited; more fruits have been added to the list as "promising well," not yet having been sufficiently tested. Every variety was fairly discussed in regard to its fitness for different soils, localities, and latitude. As there was representatives of twenty-one States of the Union, California included, most of the varieties on trial had to undergo a thorough examination from all sections.

It is not to be doubted that such an open and broad discussion will have the most important results. At every session, the Convention seems to acquire new strength, and settle facts. It is, in truth, most important for fruit growers of all denominations, to have all the opinions and the sanction of the large majority, either for the admission or the rejection of varieties. With such an institution, impositions, and even common errors, will rarely occur. Nurserymen and dealers in fruit-trees or plants, are aware that their transactions with the public will have to stand the trial of a competent jury; and this will do away, measurably, with one of the greatest evils of the trade—carelessness, and consequent occasional imposition; the one as bad as the other in its results, though widely different in principle. If American pomology shall, ere long, be the most accurate and the best in the world, it is owing to the great idea of a national convention, in which everything relating to fruit, is fairly and honestly discussed by the most able horticulturists of all parts of the Union.

The great controverted question of pear budding on the quince, has been examined and discussed. Much remains to be said as experience increases; but, by proper management, it seems, beyond doubt, that the pear will succeed on the Angers quince; much, if not all, depends on the stock and on the manner of planting; for the want of proper attention to these two conditions, many have failed, and therein, perhaps, lies the origin of all those conflicting opinions regarding dwarfs as orchard-trees. No one disputes their utility in garden culture where they can receive proper attention.

Many fine specimens of apples, pears, grapes, &c., were exhibited in the spacious hall which was kindly left at the disposal of the Society by the active and able President of the Rochester Horticultural Society, Mr. Reynolds. It would be an endless task to note all the fine collections of fruit from the East and the West, and chiefly from the large fruit growers of Western New York. Suffice it to say, that there was a fine display of all kinds in season, mostly named correctly; this is not the least important improvement in horticulture, when we consider that, without correct nomenclature, confusion, errors, and deception, must be of every-day occurrence.

The splendid nurseries of Eliwanger and Barry, Mr. Frost, Hooker, &c. &c., were visited by the President, the members of committees, and, indeed, by all those interested in the cultivation of fruit. The President, and a great number of the members, accepted an invitation to dine at Mr. Frost's, where, besides the ordinary delicacies of a good entertainment, there was a rich display of fruit of the choicest varieties, to all which due attention was

paid by parties who understood well what they were about. Some of the best products of Ohio, here stood the test of this trial committee very successfully.

The good results of these public meetings cannot be denied, and it is mainly owing to this Society that American Pomology has made, in so very short a time, such great strides; now the engine is fairly started, all that we want is to follow in the same track, enlisting the united efforts, labors, and sacrifices, of all the men prominent either for their high position and activity, or their intelligent and practical labors. A little opposition from writers like Dr. Ward and "Jeffreys," will do no harm in the end, but will tend to rouse investigation, and, with investigation, the truth must in the end prevail.

POSTSCRIPT TO THE DOWNING MONUMENT.—As we are going to press, we have received from the designer of the Downing Monument the following additional inscription, which is to be cut into the base of the pedestal:—

"This memorial was erected under a resolution passed, at Philadelphia, in September, 1852, by the American Pomological Society, of which Mr. Downing was one of the original founders.
MARSHALL P. WILDER, President."

THE UNITED STATES AGRICULTURAL EXHIBITION, at Philadelphia, was an eminent success, both as regards the display and the unequalled attendance. The receipts are said to have reached thirty-nine thousand dollars; the utmost order prevailed, and our citizens had a good opportunity of judging of the value of such exhibitions of stock and fruit. We hoped to be furnished with the official report of the horticultural department, but it had not been received, owing, no doubt, to an accident, when the *Horticulturist* went to press.

THE FIRST PHILADELPHIA PARK.—The noble gift, made by a number of our neighbors to the city of Philadelphia, of forty-five acres of land for a public park, has already been chronicled in these pages. It affords us sincere pleasure to add, that the proper steps have been taken by Councils, aided by an intelligent committee of the donors, to immediately improve and embellish these grounds, known, till lately, as "The Hunting Park Race Course," and near Germantown. That able writer and landscape gardener, Mr. William Saunders, who favors our readers monthly with the "Calendar of Operations," received the first premium for the plan of laying it out, and Mr. James Gleason, both of Germantown, the second.

Mr. Saunders, in his description, showed that he understood the principles of creating scenery; he has been appointed to superintend the entire laying out, and has gone to work already to select the ornamental trees and shrubbery. This appointment will not, however, as might be conjectured, interfere with his regular business of landscape and consulting gardener, which is already extensive, embracing a space between Carolina and Massachusetts.

We shall endeavor to give Mr. Saunders' plan, in a reduced form, as soon as it can be prepared.

THE GENUS CORREA.—In a previous page will be found an essay on the cultivation of the genus *Correa*, by Mr. E. Sanders, of Albany, to which we invite attention. The *London Florist* figures, in its last number, the beautiful *Correa cardinalis*, lately exhibited by Messrs. Veitch & Son, at the Crystal Palace, as one of the most beautiful and interesting. In habit, it resembles *Correa ventricosa*, but is far superior to that kind in color and attractiveness, producing rich scarlet flowers an inch to an inch and a half in length, in an abundant bloomer, and of compact habit, and continues blooming longer than any other variety. *Correas* are easily cultivated, and should be more generally known.

Another new plant must not be forgotten—the *Pteroma elegans*. This is one of the most

beautiful summer and autumn flowering plants in cultivation; there is a neatness in the glossy green foliage and compact habit of well managed plants of it, that is at all times pleasing. And if we add to this the large, round, dark purple flowers which are produced on every branch in great abundance, we shall find that we have few plants more attractive.

PEACH CULTURE.—It is with much pleasure we present our readers, in the present number, with an account of the mode of culture of the peach, written by Samuel T. Jones, Esq., to whose eminent success we have repeatedly alluded. Its simplicity alone will recommend it. The largest tree in Mr. Jones's garden failed last spring; the trunk, at *this moment*, measured, at the surface of the ground, four feet in circumference; a man's body averages three feet only; at six or eight inches above the ground, it measures three feet, and was, doubtless, something more when distended with sap. Other trees in the vicinity measure as follows:—

In circumference, at the surface.	In circumference, six to eight inches above.
Three feet,	Two feet, seven inches,
" "	" " eight "
" "	" " seven and a half inches,
Two " seven inches,	" " four inches,
Three " two and a half inches,	Three "
" "	Two " nine "
" "	" " seven "

The lamentations respecting the peach are all gammon, to use a vulgar phrase. We have seen them at Mr. Jones's, and in his vicinity, as well as at Mr. Lürman's, near Baltimore, this season, as fine and as fruitful as ever. All they want is proper treatment, and it is well to know what that consists of.

GRAPES.—The season is prolific in new varieties of grapes; from J. Fisk Allen, Esq., we have received a box of specimens of his new hybrids. The *Rebecca*, all our correspondents agree in praising very highly, and, by the report of the Pomological Society, it will be seen that new seedlings, raised by Mr. Raabe, of Philadelphia, are exciting attention.

Our specimen of "Allen's Hybrid," a white grape, ripening in August, is highly satisfactory—indeed, we pronounce it the best yet produced; if it prove hardy, which is hoped, it will be a most desirable acquisition, and it is equal to any in flavor.

Allen's No. 8, raised under glass, is a black grape, which it is hoped will also be hardy; about the size of Isabella, and excellent.

No. 3 is larger than Isabella, but not being ripe we cannot characterize. It has a good appearance. Mr. Allen is entitled to great credit for his exertions in this department. He says:—

SALEM, MASS., Oct. 6, 1856.

J. JAY SMITH, Esq.—DEAR SIR: According to my promise, I now send you specimens of Allen's Hybrid, a white grape, and a Black Hybrid, No. 8. These were raised under glass, but not forced, and on an eastern exposure, where but a few hours' sun fell upon the house or vine. The white grape flowered on the 7th of May, and was ripe the 15th of August, and has hung upon the vine since, during all the excessive rains of the past two months, amounting, in my garden, to sixteen and a half inches, without decay of any amount. This grape is as early (if not earlier) in maturing as any European variety of any value. In quality, equal to the Chasselas in its best condition. The vine has stood the last winter in the open air, and, I have no doubt, will prove sufficiently hardy for open culture on walls of houses, and, I hope, will even be suitable for field culture. No. 8 is not so good or so early as the white, but it is free from pulp and the foxy flavor. Several other vines of the same

family of Hybrids, have fruited in the open air this year, and withstood the severe cold of last winter unprotected. The mildew has been more extensive this year than usual, and the excessive rains have not only delayed the ripening of out-door grapes, but injured their flavor.

Respectfully yours,

JOHN FINE ALLEN.

W. Brooksbank, of Hudson, N. Y., forwards us a box of the Rebecca Grape, and says:—

"The vine is an accidental seedling, which originated in the garden of Mr. G. M. Peake, of Hudson, N. Y., whether from the seed of native or foreign grape, is not known, although its aroma and other characteristics indicate it to be of native origin. It is perfectly hardy, enduring our severest winters, in any exposure, without injury.

"The original vine has fruited for the last five years; one, three years old, from a layer, has now upon it at least a hundred good-sized bunches of fruit. It is a good bearer and thrifty grower, extending its shoots from fifteen to twenty feet in one season, with good cultivation. Fruit ripens a week or ten days earlier than the Isabella."

A correspondent who has seen the "Rebecca" vines, says: "From the foliage, I entertain no doubt of its native origin." Another assures us that it was considered, at the Pomological Convention, the best native grape yet brought into notice. A third "looks for quite a furor about this grape," and suggests "planting it alongside a Chasselas of Fontainbleu, and dusting the blossoms together, hoping to raise a seedling which will combine the hardiness of the one with the excellent flavor and fine bunches of the other." Really, this grape is, in our opinion, a great success. We are not informed whether Mr. B. is prepared to take orders for vines, but trust that he is, and that he will be fully rewarded for his discovery of such a delicious and compactly bunched, white, hardy grape. "Allen's Hybrid" and the "Rebecca," are destined to be great favorites, and to supersede some of our present best table grapes.

GRAPE-VINES AGAIN.—We have recorded the success of Mr. Glandinning, in taking the prizes from the best English grape growers by grapes from his small house and limited border. Several writers have taken up the topic and now assert that the proper theory is that vines root in the subsoil, and obtain sufficient nourishment there; numerous instances are given of carelessness in making preparations for roots where success was very remarkable. In one case, a gentleman made a hole with a pickaxe, and a little soil was put in to cover the roots; nothing more was done when the celebrated vines which produced four crops in two years were planted. What say the advocates for whole exen now? Good, fibrous loam, and roots deep in the soil, beyond the ordinary atmospheric changes, is now the theory!

VINEYARDS SUCCEEDED IN INDIA, at Ghuzni, a table-land in India, 8,000 feet above the sea, the climate resembling that of Canada, the air dry, summers short and extremely hot, the thermometer indicating sometimes 112° in a tent. This part of Afghanistan is celebrated for its vineyards—indeed, grapes are said to be the staple of the country. The system of cultivation pursued may give a valuable hint to our country, as the only one by which in a cold climate and with limited means the cultivator could hope to see his vines ripen, both fruit and wood.

The site of the vineyard is selected, if possible, on the slope of a hill with a southern aspect. The ground is then dug in trenches (running north and south) at intervals of about twelve feet, and from three to four feet deep, the soil excavated being deposited between the trenches, thus forming intermediate mounds, the whole finally resembling somewhat a gigantic celery bed. All the stones that have been dug out (and, if necessary, others are collected for the same purpose), are then driven into the sides of the trenches and mounds,

and thus form a rough revetment or wall; the vines are then planted in the bottom of trenches, and, as they grow, trail themselves over the mounds.

The advantages of the system are obvious. During the long winter, the vines are but deep in snow, and this warm covering is retained by the trenches until some time after on the surface of the country has disappeared, and danger from spring frosts has passed away. As the snow in the trenches melts, it finds a ready outlet at the lower ends. When once the vines begin to push, their progress is rapid, as, from the mode of growth provided for them, they receive not only the full benefit of the whole of the direct rays of the sun but also of the heat radiated from the underlying stone revetment.

GRAPES IN 1865.—MR. KIRTON: This has been one of the most propitious seasons for grapes, and the *Isabella* has never been known to grow larger, or perfect itself better. Late crops have been grown, and price reduced to five cents per pound. It is hoped the *Catawba* will ripen; a few days more of sunshine will do it. Fine specimens of the "*Delaware*" and "*Diana*" were shown at the Genesee Valley Horticultural Exhibition. The "*Diana*," a seedling from the *Catawba*, ripens full two to three weeks earlier than the *Catawba*, and is an acquisition. The *Delaware* is very sweet and delicious, as well as being early. A grape, called the "*Rebecca*," was shown by Dr. Grant, who lives near Newburgh, New York, which is also a choice one. It appears like the "*White Chasselas*," and is very fine, early and hardy. It will command universal attention, and be generally admired.

Mr. Longworth sent fine specimens of the "*Catawba*" Grape from Cincinnati, for our conventions, which came too late, but, be assured, good use will be made of them distributed amongst the lovers of the grape at Rochester.

Rochester, N. Y.

Truly,

J. H. WATTS

GEORGE.—A lemon, girthing, eighteen and a half inches from the footstalk to the flower point, girth cylindrical fourteen inches, and weight one pound nine ounces, has been wonder of a large neighborhood in England, and is considered to be the largest on record.

—MR. BOSWELL L. COIT, of Paterson, New Jersey, states, in a letter to the Commissioners of Patents, that he has ordered from Scotland the spawn of the trout, carp, and salmon, with the view of propagating them in the waters of New Jersey. He suggests that the Patent Office should import for distribution the spawn of the red mullet of Europe, as well as that of the sardines, for breeding in the Middle and Southern States.—N. Longworth, Jr. writes to a Cincinnati paper: "You say, the wine manufacturers of our city contemplate raising the price of their wines, in consequence of a failure of the grape crop. I have heard of no such intention, and believe there will be no such cause for it. Last spring, upwards of 40,000 gallons of old wine, which I have been selling, and still sell, at one-fourth less than cost. It is true, that last winter was very destructive to the crop. But many have a fair crop; and a better yield, in Kentucky and Indiana, south of us. And, I believe increased grape culture will give us as large a crop as we had last year. But little injury has been experienced from the rot, and I believe the season of danger is past.—A large *Lilium giganteum*, is making a great sensation among the English gardeners. It grows ten or twelve feet high, the flowering portion measuring twenty inches, and bearing eight superb flowers somewhat resembling the common white lily, excepting that they have a deep purplish tinge along the inner edge of each division of the perianth, and measuring five and a half inches across the mouth of the tube. Have any of our gardeners received this plant?—Moss roses require a good deal of manure, and a rather cool situation. Many persons are unsuccessful with them for want of this information, and from not mulching their roots.—A good, old-fashioned correspondent so well expresses our own views in

following paragraph, that we copy it entire : "The common feeling with some is, that such and such a matter of one's own experience is too trifling to be made public ; whereas, in truth, such practical instances of the application of principles are often of great value, and contain precisely the kind of information which we cannot get from scientific works. I regard the readers of the *Horticulturist* as an assembly of friends, who meet together once a month for mutual instruction and entertainment. Among them are a large portion who are not 'further along' than myself ; and I consider it a sort of duty in each to impart whatever information will be servicable to others."—If you want to have your prairie roses in their greatest perfection, mix two or three ounces of guano with a pound of fine charcoal, and bury it all over the bottom of the hole when you plant ; the same treatment will be good for all roses, using less guano for the smaller and more delicate. Light waterings of guano are also important once a week.—It is said that the proportion of persons in New Jersey engaged in horticulture compared with Massachusetts, is as six to one, and, with New York, as three to one. Her soil and situation admirably adapt her to the growth of fruit. A concentrated action on the part of her citizens would prove useful.—Endive is very good boiled, thus : chop it up fine ; boil it ; then put it in cold water ; then squeeze it quite dry ; mix a tablespoonful of flour and a little butter, and boil them in a pipkin ; put this into the endive and a teacup of water ; add salt and pepper, and boil till done. The same receipt is good for spinach.—The use of cocca-nut mats, such as are employed for covering floors in public rooms, has been found advantageous for covering greenhouses instead of shutters. Though sufficiently porous to admit light, the warmth is greatly increased by them. The inclosures of greenhouses are not sufficiently attended to ; by calculating the number of very small air-holes in a large house, a friend lately came to the conclusion that there was a space, if all put together, of four square feet ! for the exit of warm air ; no wonder the gardener found it impossible to keep out the frost.—The "Virgilian Graft" was thus effected : a hole was bored across the diameter of a walnut-tree, and a vine branch passed through it while yet in connection with its parent stem ; after a little time the branch was cut off, and it was said by the ancients, it would then be found united to, and growing upon, the walnut. This has been very properly questioned, not as to the fact, but as to the nature of the union. It was not a true graft ; the wood of the tree may have supplied nutriment to the branch, not by union of its vessels, but by the decay of the vessels surrounding it ; and, from the nature of the case, such a union must have been short-lived.—A very excellent marmalade may be made with pears, to use in making tartlets. Boil six good-sized pears to a pulp ; weigh them ; take half their weight of sugar, put into a saucepan, with a very little water, boil it, and skim it while boiling ; when thoroughly boiled, add the pulp of the pears ; give the whole a boil, and add about four drops of the oil of cloves.—In Italy, baked beets are carried about, hot from the oven, twice a day, and sold in the streets, giving to thousands, with bread, salt, pepper, and butter, a satisfactory meal. By baking them, the rich saccharine matter, which is lost by boiling, is in a great measure retained ; this mode is strongly recommended for trial.—A friend, who professes to like our Kew Gardens' articles, invites us to a description of Chatsworth. A good description of this regal place of the Duke of Devonshire would fill a number of the *Horticulturist*, and be then imperfect ; the best account we have seen, is in the first volume (1846) of this periodical, page 298. About one hundred and forty men are constantly employed on the grounds near the house. When we saw it, the old duke, who is deaf as a post, was playing cricket with the Earl of Burlington, the next heir, and a bevy of the sons of the latter, assisted by some of the best cricketers among the workmen. We shall, perhaps, some time look up our notes.—Watering the bark, and not watering the roots, of a transplanted tree, then in a half-dormant state, has been strongly recommended. Downing said somewhere, that there was no doubt half the trees that die annually from

the ignorance of transplanters, perish from a mistaken notion of deluging their roots with water daily, when their fibres are so feeble as to dread it as much as a patient afflicted with hydrophobia.—The most important recent botanical works are Seemann's *Popular History of Palms*, and Dr. Danberry's *Popular Geography of Plants, or A Botanical Excursion round the World*, each about three dollars in London, and, at the same price, Stark's *Popular History of British Mosses*.—Some novice in botany lately sent abroad a paragraph on bulbs containing a perfect germ within, which might be examined by carefully unfolding, &c. The article was popular, and ran the circle of paragraph scissors. It may surprise some who seized on it, to read the following beautiful lines from Darwin's *Botanical Garden*, a book of the last century:—

"Lo! on each seed within its slender rind,
Life's golden threads in endless circles wind;
Mass within mass the lucid waves are roll'd,
And, as they burst, the living flame unfold.
The pulpy acorn, ere it swells, contains
The oak's vast branches in its milky veins;
Each ravel'd bud, fine slim, and fibre-line,
Traced with nice pencil on the small design.
The young narcissus, in its bulb compressed,
Cradles a second nestling on its breast;
In whose fine arms a younger embryo lies,
Folds its thin leaves, and shuts its secret eyes;
Grain within grain successive harvests dwell,
And boundless forests slumber in a shell."

THE CURCULIO.—Mr. J. R. Gardener, of Sunny Side, Montgomery County, Virginia, informs us that he has been successful in destroying the curculio, by piling small stones, to the height of eighteen inches and about three feet in diameter, round the trees. Those thus treated, he says, are loaded this season, while on trees ten feet distant, without the stones, the fruit is all destroyed. The person who first tried it was led to do so, by observing large quantities of plums on trees growing wild, in the rocks, in some parts of Pennsylvania.

Another plan is, to remove the soil from around the tree as soon as the insect was noticed. The earth was taken off about five inches deep, and wheeled away some sixty feet, and scattered about, thus destroying the insect. Trees thus treated are loaded with fruit, while the others are destroyed.

Mr. A. Fahnestock, of Toledo, Ohio, one of the committee on Mathews' Curculio Remedy, has written to the *Ohio Cultivator* to say it has been perfectly successful; that Mr. Barry was misinformed in saying it was a laborious process, as it requires to be done but once; but still, the remedy does not come to the ear of the public. Why is this?

THE LARGEST PEAR.—Dr. J. M. Ward, of Newark, N. J., sends us a Duchesse d'Angoulême Pear, grown by himself, the size and weight of which are positively fabulous to those who have not seen it. When taken from the tree, the weight was 35½ ounces; its dimensions 17½ inches, in its longitudinal circumference, and 15½ in its cylindrical. The weight is attested by the Editor of the *Newark Daily Advertiser*, and by Mr. Reid, of Elizabethtown, in the presence of Mr. Redman, of the *Southern Cultivator*. When we received it, the weight was diminished by the removal of a decay which had been replaced by cotton; this reduced the weight to two pounds. It is the largest pear, probably, on record, and comes in very well just now, to ease off a little the remarks made at the Pomological Convention about Dr. Ward's management of his trees!! We have had it modelled. It is remarkable that the largest pear of last season also came from Newark.

ROCHESTER, Oct. 1, 1856.

EDITOR HORTICULTURIST: The American Pomological Society held its session on the 25th of September, continuing three days, which proved one of its most useful and interesting ones.

The most celebrated pomologists of the country were present, and the utmost harmony prevailed.

The "Genesee Valley Horticultural Society" held its fall exhibition at the same time, and members of the Convention were amongst the contributors, and a finer collection of fruits has never been shown out of Boston. Corinthian Hall was well prepared for the show, and great credit is due to Mr. Reynolds, its proprietor as well as President of the Society, for the arrangement of tables, &c. &c., and universal satisfaction was expressed at the show of fruit and flowers.

Mr. Longworth, with his usual liberality, sent a case of his native wines, which were pronounced as best, and members drank to his health as a public benefactor in bringing the grape to such perfection, in this country, in its use for the manufacture of wine.

Temperance will be promoted by its use instead of the alcoholic beverage so freely used in this country.

Respectfully,

J. H. WATTS.

NECROLOGY.—We should have recorded sooner, but for an accident, the death of Robert Meston, gardener to Colonel Polk, of Tennessee. Mr. Meston was an occasional contributor to the *Horticulturist*, and evinced, by his writings, a degree of knowledge and thoughtfulness on his favorite subjects, that was quite extraordinary. He leaves a family, for whom great sympathy is expressed by the neighborhood.

DAVID ROSS, a botanist and gardener, died on the 27th of September, at Louisville, Kentucky. He had endeared himself to the inhabitants of that place, by his devotion to science, his suavity, and great goodness of heart. At the time of his death, he was laying out Cave Hill Cemetery, which he had greatly improved, and where his urbane and gentle manners had won the esteem and confidence of all who knew him.

NEW VERBENA.—Geo. C. Thorburn, of Newark, N. J., writes as follows: "Inclosed you will find a flower and leaf of the greatest *hit* in verbenas since the early days of Defiance; from its unique foliage, being a real vervain leaf, and pretty flowers and creeping habit, it will be, for all vase, basket, or rock-work purposes, the prettiest thing in its way ever introduced." Few persons have done more than Mr. Thorburn in introducing novelties to enrich our floral domain.

STEAM PLOUGH.—Fowler's Steam Plough was lately successfully exhibited at Borted Lodge, England; in the very field where the reaping machines had been at work, a space was cleared, and preparations were made to plough the land scarcely relieved of its burden, and the wonderful rapidity of mechanical operations was demonstrated by reaping, ploughing, and actually sowing the same field, in one day, besides threshing, grinding, kneading and baking a loaf of bread out of the crop that was standing in the field that morning! Steam ploughing seems already to be a great fact.

CATALOGUES, ETC., RECEIVED.—Trade List of Parsons & Co., Flushing, near New York, for Autumn of 1856.

Catalogue of Fruit and Ornamental Trees, 1856-57. By Verry Abdrich, Arispe, Bureau County, Illinois.

Catalogue of Fruit and Ornamental Trees cultivated and for sale at the Hopewell Nurseries, near Fredericksburg, Virginia, Henry R. Robey, Proprietor.

NEW PLANTS exhibited at the London Crystal Palace lately, were *Abies Kaempferi*, a new Larch, from the North of China, said to grow one hundred and fifty feet high, and perfectly hardy; its foliage is very fine. *Leptodactylon Californicum*, from South California, foliage and habit resembling *Ruellia ciliata*, flowers two inches in diameter, light rose, tinged with lilac, and pronounced one of the most beautiful greenhouse shrubs. *Gesneria Donckelaeri*, a foot and a half high, with spikes of blooms a foot in height. *Philesia burxifolia*, with two or three new *Ixoras*, and *Begonia Thwaitesii*, with handsome, brown foliage, having blotches of dull green. A *Rhamnus*, of a species producing a celebrated Chinese green dye. The *Collinsia verna*, a native of Kentucky, attracted much notice, and is recommended as a charming bedding-out plant, having a profuse succession of flowers, the upper lip of the corolla being pure white, and the lower one azure blue, with white rays, and the under side pink.

ANSWERS TO CORRESPONDENTS.—(P. T.)—*CHIMONANTHUS FRAGRANS*. Your disappointment with this deliciously scented plant is very natural. The English writers place it on all their lists of garden shrubs, and, in England, by training it against a wall, they get the finely scented flowers from November till March. By placing a protection of glass around the shrub here, we have no doubt the bloom might be obtained in perfection; as it is in our own garden, the buds form in great numbers, but are destroyed by the cold of December before the bloom appears. At the South, it would be a most valuable addition to the winter garden. It is a native of Japan; from *chieson*, winter, and *anthos*, a flower; of the order *Calycanthaceae*, of which our Allspice shrub is an example.

(C. S.)—*WISTARIA CHINESE*. This beautiful vine may be made to flower several times in the year, by the following simple treatment: After the first flowering is over, strip off all the leaves, and cut off all young and superfluous branches which have been formed, to within a few eyes of the stem, which causes it to throw out fresh leaves, and to flower again; after this bloom is over, the same process will produce a third bloom, late in the season. The plant does bloom naturally twice, and even thrice, but the flowers are so very weak and so few, that it is never worth notice; whereas, by the above simple process, an abundant succession may be insured. These remarks will not apply to young plants, but only to those that are well established. By severe trimming, this plant may be grown as a bush.

(H. R. ROBBY, Virginia.) The oak shrub, growing about seven feet high, and bearing a fine crop of acorns, and sometimes only two and a half feet in height, of which you have sent us the leaves, is the *Quercus prinoides* of Willdenow, and the *Prinus chincaopin* of Michaux.

(CATAWISSA.) Yes; the Catawissa Raspberry is a "perpetual bearer" up to late frosts, and it produces abundantly; the flavor of the raspberry may thus be had all the season, but the berry is not of the highest character or aroma; we are, nevertheless, pleased with it, and consider its introduction a valuable acquisition; we say this, which we could not conscientiously say last year, after having grown it successfully.

T. S. GOLD ON THE KALMIA was received, but we have not been able to find a place for it, which, however, we hope to do.

ELECTROTYPING.—Perhaps the largest application of the Electrotypes, or Galvanoplastic process, mentioned in a former page, has been made in the Cathedral of St. Isaac, at St. Petersburg. The dome is superbly electro-gilded with two hundred and forty-seven pounds of dust gold; the metal employed in its construction is—copper, 52½ tons; brass, 321½ tons; wrought iron, 524½ tons; cast iron, 1,068 tons. Total, 1,966½ tons!

Horticultural Societies.

BROOKLYN HORTICULTURAL SOCIETY.—This flourishing community held their third and last general meeting on the 17th, 18th, and 19th of September, when upwards of \$520 were distributed in prizes.

To any person acquainted with horticulture, and who has closely observed the improvement in culture which has been successively presented here, and likewise instilled into the surrounding neighborhood, the encouraging and judicious action of this Society is readily seen. Some of the wealthy and most influential men in the locality, have, from the commencement, assisted, not only by their money and personal attention during the exhibitions, but by unremitted exertions in obtaining the needful funds from, and patronizing attendance of, their numerous friends. This same body has also considered that the more practical members were the best suited for carrying out the general arrangements; consequently, this part has been almost entirely under the control of the latter. Owing to such a policy, all has most unprecedentedly prospered hitherto, and as the same support is, and likely will continue to be guaranteed, we would advise the Committee of Arrangements to be careful that no discrepancies occur, on their part, to mar so noble an institution.

Considering the lateness in the season, the plants and flowers were very numerous, and finely grown. J. E. Rauch, of Brooklyn, to whom was awarded the first premium for "collection," had many novelties amongst his well arranged stand of over 150 kinds. L. Menand, of Albany, had also an extensive assortment of fine and rare quality, amongst which were some most beautiful ferns and lycopods, many of them natives. He also won the first for six plants, with admirably grown specimens, and the premium single plant, with *Erica transparens*, four feet in diameter, and five feet high, well bloomed. Who will say, after this, that heaths cannot be grown in America? Other flowers and plants worthy of notice, were seedlings of *Lilium lancifolium*, white and spotted, by J. B. Mantel, of Astoria, remarkable for the immense number of flowers on a stem. If this character should hold permanent, they will be a great acquisition, but we are inclined to think it is nothing more than present exuberant growth. The lovely Swan Flower (*Cycnoches ventricosa*), by Mrs. Holbrook, of Eighteenth Street, New York. A fine specimen of *Ixora javanica*, by Alexander Gordon, gardener to — Hoyt, Esq., of Astoria. *Sequoia gigantea*, alias *Washingtonia*, alias *Wellingtonia* (the Big Tree of California), was in two collections, about one foot high. A stand of seedling Dahlias, by Mr. Burgess, of Glencove, Long Island, all good; one, a very dark maroon, possessed all the perfection of the most stringent rules of the florist. An ornamental design, by H. A. Graef and Sons, of Brooklyn, representing a series of cornucopias, filled with flowers and fruit. A noble *Cissus discolor*, by Martin Collopy, gardener to — Prentice, Esq., Brooklyn. Bouquets, baskets of flowers, &c., were numerous and well arranged, the handsomest on the table being a basket of wild flowers, by Henry Tanner. Fruit was abundant, and mostly of good quality. The first collection of apples was shown by your correspondent, Dr. J. M. Ward, of Newark, New Jersey; he had also a good variety of fine pears. D. J. Mannice, Esq., of Bushville, Long Island, took the premium for the greatest number of pears with 163 varieties; these, however, were only middling quality. The smaller lots of pears were exceedingly fine, particularly the first six, by Alexander Gordon, and best twelve by Thos. Duncan, gardener to — Wolsey, Esq. Grapes, both foreign and native, were good and plenty; Thos. Duncan had the best six, and Wm. Grant, gardener to Vandeventer, Astoria, the best three varieties. Henry Hudson, gardener to F. Griffin, Esq., Brooklyn, showed Black Hamburg and Frankenthal (?) well ripened out of doors. There was also what was understood to be a native seedling, called Rebecca, from Mr. W. Brocksbank, of the Prospect Hill Nursery, which in flavor is equal to a Frontignan, entirely free from the usual hard pulp, the foxy smell nearly extinct, and answers to the following description: Bunch rather small, without shoulders; berries numerous, close set, medium size, roundish oval, whitish amber green, sweet and rich. If a few leaves had accompanied the bunches exhibited, there would have been a better chance of determining as to its origin; but, if it really be as represented, quite hardy, and ten days earlier than Isabella, it ought to be in every garden.

Taken collectively, the exhibition was very good, and the over-crowded rooms showed that so rich a treat was duly appreciated.

W. C.

Calendar of Operations.

NOVEMBER.

BY WILLIAM SAUNDERS.

VEGETABLE GARDEN.—Manuring and digging ground will be a principal feature in the garden at present. If possible, let it be trenched eighteen inches deep. Where the subsoil is clay, a small portion only ought to be brought to the surface at a time; by a repetition of this process, a good depth of workable soil may be ultimately secured, and the growing crops receive no check in dry seasons.

There is a difference of opinion, among practical cultivators, with regard to the propriety of applying manure in the fall, many preferring to apply it in spring, immediately before cropping. Much depends upon the nature of the soil; tenacious soils are much benefited by a heavy application of fresh or undecomposed manure, turned in at this season, as it tends to preserve that porosity so necessary for a free permeation of frost, which is found a valuable auxiliary in cultivation. Manure, applied in spring, requires to be thoroughly decomposed, that its action may be immediately effective. For the earliest crops of peas, potatoes, onions, &c., fall manuring is, perhaps, preferable.

Asparagus.—The tops should be cleared off as soon as they decay, all weeds and grass removed, and the roots covered over with manure or leaves, as a protection from severe frosts, which weaken the plants, especially in soils naturally moist. Manure is of course preferable to leaves, as it will enrich the soil. The best asparagus I have seen, had an annual dressing of sea-weed applied in this way. Those who can command this article, should improve their advantages in this respect.

Celery.—There are various methods adopted to preserve this crop for winter use; it is frequently lifted, and kept in cool cellars. If the soil be packed well up to the tops, finished rounding, so as to throw off water, and covered with eight or ten inches of leaves, it will keep better where it is grown; this covering will prevent the ground from freezing, so that it can be reached at any time.

Spinach will also repay the expense of throwing a slight covering of straw or leaves over the plants.

Cabbages may be lifted and planted as close as they can be packed in trenches; cover the stems well up with soil, and cover the tops with straws or leaves.

Fruit.—The preservation of winter fruit is a subject worthy of more care and attention than is generally bestowed upon it. In the first place, it should have been carefully handled in gathering; the slightest bruise lays a foundation for early decay. The temperature of the fruit-room should be kept as uniform as possible; 34° as a minimum, and 40° as a maximum, will be a safe fluctuation. The greatest difficulty lies in keeping a proper hygrometrical state in the atmosphere, so as not to cause shrivel by evaporation of the juices, nor promote mouldiness by damp. Frequent examinations will be necessary, and all that indicate symptoms of decay promptly removed, and the room kept sweet and clean.*

Pruning.—There is, perhaps, no subject in horticulture so little understood as the principles upon which pruning is founded. The object in pruning fruit-trees is chiefly to hasten or regulate the crop of fruit, and induce or retard the development of wood growth. With reference to the former, more depends upon summer pruning and disbudding. Trees are frequently barren from excessive wood growth, which is weakened by pruning during summer. It is a well understood fact among scientific cultivators, that summer pruning weakens, and winter pruning strengthens, the wood growth. Hence the practice of nurserymen in pruning young trees after the season's growth is completed, to increase their luxuriance. Trees that have arrived to a bearing state, if properly managed during growth, would probably require no winter pruning, unless the removal of large and misplaced branches. In the abstract, it seems a negative practice to encourage a luxuriant growth, and then cut it down in winter. It is quite possible to manage trees without having recourse to winter pruning, unless for special objects, as already alluded to. It is certain that much injury is inflicted by the indiscriminate use of the saw and pruning-knife at this time, especially on

* [There is a growing conviction respecting fruit, to the effect that pears should be treated much as apples are, and not separately laid out on shelves; by the latter process, they are apt to shrivel, while their juices, when together, are preserved. Mr. Hovey mentions a case where a clean barrel was taken, and a bushel of russet apples put in; Glout Moroccan pears were added, and the barrel was filled with more pears, and then rolled into the cellar. About the middle of February, the barrel was opened, and the pears were still green; they were then placed in a warm room, and, in ten days, they were in a fit state to be eaten.—Ed.]

young bearing trees. Make it a study, next season, to disbud and summer prune all rank-growing trees, so that you may weaken and check the wood; pruning such trees now increases their future vigor, since, by diminishing the branches after the fall of the leaves, the roots gain a greater preponderance. On the other hand, it is no less necessary to prevent weakness from overbearing. Since the introduction of the dwarfing system by grafting on weak-growing stocks, this error has been frequently committed, and unprofitable trees have been the result. It has also had a tendency to throw discredit on the system, by those who, from want of knowledge and experience, have been unsuccessful in cultivation. There are many kinds, naturally of slender growth; grafting them on a slow-growing stock induces fruitfulness, and represses wood growth to an injurious extent. Such trees should have every blossom picked off that appears in spring, all growth carefully retained during summer, and pruned down in winter. Such treatment will be followed by increased vigor, which may be maintained by taking moderate crops, and continued good cultivation. So much depends upon individual peculiarities in trees, that it is difficult to form a definite rule that would serve as a safe guide to the uninitiated. Close observation, extended experience, and, at the least, a slight knowledge of vegetable physiology, are indispensable requisites to a successful cultivator of fruits.

GRAPERY.—The vines may be pruned towards the end of the month, and, after being loosened from the rafters, laid down and carefully covered; the borders may be top-dressed, and covered six inches in depth with manure. The house should be left aired, unless in storms or very severe frosts.

Figs are too tender to stand the winter uninjured. The best method of preserving them is to peg them down as close as possible to the ground, and cover in and through the stems either with soil or leaves. This fruit is much thought of by many, and should be more extensively grown than it is. Attention to covering from severe frosts will insure plenty of fruit.

GREENHOUSE.—As a general rule, the less fire heat given, the better for the plants. A night temperature of 46° will be a safe average; with sun heat, 70° will not be too high. All greenhouse plants will flower under this temperature. Those who follow the old routine practice of shutting up early, and putting on fires in the evening, keeping a high temperature during night, and opening the sashes as soon as the sun shines, need not look for many perfect flowers. If they would look a little into this management, it will be found that they have their highest temperature at the wrong period in the twenty-four hours; in other words, the house is warmer, or, at least, as warm at night as during day. The necessity of low night temperature has frequently been urged in these calendars. *It is one of the most important points in the culture of plants under glass*, and is so understood by all really successful gardeners.

The house will now be gay with primroses, camellias, azaleas, epyphyllums, coronillas, some heaths, daphnes, epacris, acacias, oxalis, &c. Water must be given only when plants are actually in need of it, otherwise they will not remain long in health.

FLOWER GARDEN.—Manuring and digging the soil should receive immediate attention. The deeper and richer the soil can be made, the better. It is only by liberal treatment that a lasting luxuriance of flowers can be obtained during the warm and dry weather; and, if the ground is well drained, or otherwise freed of superfluous water, there will be no danger of over luxuriance or imperfect maturity of the plants.

In making additions or alterations in the flower-beds or lawns, much taste and judgment will be required. It is no uncommon occurrence to see what would otherwise have been a beautiful lawn, completely divested of all character by the injudicious introduction of cut beds, and misplaced masses of flowering plants. Beds cut out at regular distances over the ground, produce what painters term "want of breadth," and, whether such beds or clumps consist of circles, ovals, or irregular-shaped figures, if placed pretty regularly over the whole, a monotony of appearance will be produced; but introduce these clumps at certain points, with open glades of lawn between; at some places form small designs in the arrangement of the figures; at others only single beds; and the result will be "an effect."

"Distinctive effect" is produced by the introduction of peculiarly shaped beds, fitted for certain positions, such as the bends or angles of walks, or connected with the external forms of buildings, so as to exhibit "expression of purpose," a term full of meaning when properly understood.

A flower garden may be invested with another feature, that of "character," either by the planting of the beds, such as a rose garden, or a collection of flowering shrubbery, &c., or by the introduction of statuary where it can be brought in. The arrangement of the walks will also occasionally give "character;" this, however, is the lowest degree of it, and those who attempt to give character by any peculiar arrangement of walks alone, evince a want of knowledge and appreciation of the beauties of nature.



IPOMOEA HIRSIDA Choisy

Var. flore albo-verd. super. Var. flore kermesina. Var. flore viol. et
 6. Juss. americana.

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the 1990s, the number of people in the world who are illiterate has increased from 1.2 billion to 1.5 billion. The number of illiterate people in the world is projected to reach 1.7 billion by the year 2015. The number of illiterate people in the world is projected to reach 1.7 billion by the year 2015.

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the 1990s, the number of people in the world who are under 15 years of age is expected to increase from 1.1 billion to 1.5 billion. The number of people aged 65 and over is expected to increase from 250 million to 450 million. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion.

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and the following results are obtained:

1. The first group of people who are not in the labor force are those who are not in the labor force because they are not in the labor force.

For example, the following:

*

1. The first group of people who are likely to be affected by the proposed project are the local residents who live in the vicinity of the project site. These residents may be affected by the project in a number of ways, including increased traffic, noise, and air pollution. It is important to identify these potential impacts and develop measures to mitigate them.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 84

THE UNIVERSITY OF CHICAGO

1. 100% of the respondents were female.

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

• a la... (a la...)

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Verstärkung der ...

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under the name of the "National Association of Manufacturers."

for monitoring of time and costs.

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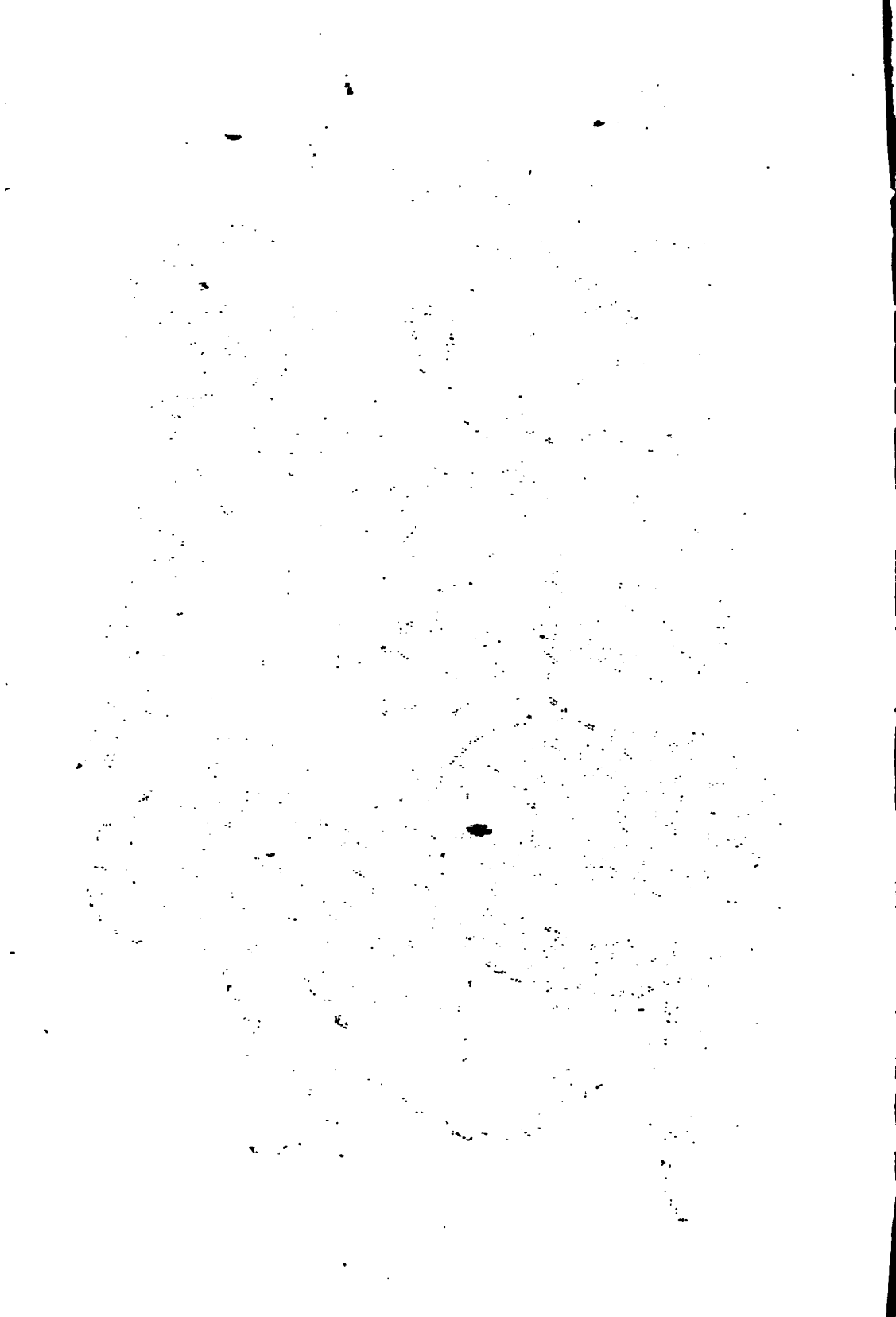
... and services. We have
 ... to ...

W. L. Soy, 1904-1910, 1914-1915

7-2

2.1.1.1. Poly-Dimethylsiloxane

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26



Gentleman Farming.—The Other Side.



IN a former article, an attempt was made to show, by the experience of Mr. Lorain, that farming by city gentlemen of no experience was a dangerous experiment, attended with many vexations and unexpected losses, crosses, and expenses. It would be scarcely fair not to give the other side; the case of a successful "gentleman's" farm, where the proprietor understands his business. Such a case we are fortunate in having been put in possession of, and we are confident it is not a solitary one.

In a conversation at Wodenethe, the topic was incidentally introduced, and Mr. H. W. Sargent recollected that Mr. Lürman, a gentleman farmer, near Baltimore, had last year made out, by request of Mr. S., a statement from his books, which is as nearly accurate as possible. Our friend asked permission to publish it; this was readily granted, as the following note will testify:—

FOREST HOME (near Baltimore), July 5, 1856.

MY DEAR SIR: Miss W. said, a few days ago, that the editor of the *Horticulturist* desires to publish, as probably of interest to the reader, the farm statements I sent you last year. I feel much complimented by his notice. If I recollect right, I gave you a calculation, or, rather, accounting sales of my last year's wheat crop, and also, a statement of what might be done on a farm of 400 acres.

To these various statements I have to add the counsel, to every gentleman farmer, never to spend or lay out on his farm one quarter of a dollar uselessly, or without producing an adequate return; on the other hand, to be liberal with every necessary expenditure.

I am quite convinced that capital can be employed profitably in agriculture, and it would produce a great improvement in the state of society in this country, if *country homes* are made profitable as well as ornamental and attractive. My receipts for cherries, this season, were \$332 03, in seven days, and I lost three days or \$200 by wet and hot weather.

Faithfully yours,

GUSTAV W. LÜRMAN.

To H. W. SARGENT, Esq.

In addition to the moneyed result, the most undoubted evidences exist that there is a large revenue in the shape of the most bountiful provision for a bountiful table, produced on the place—such as the best fruits of the garden, the orchard, and the field. Indeed, it is one of Mr. Lürman's very pleasant hobbies, that as nearly everything as circumstances will permit that is set before his large family and his many guests, shall be the product of the farm; and certainly we have never seen better in any sense. We must, therefore, in making up a moneyed calculation of the produce of this admirable farm, add *at least* two or three thousand dollars for what is consumed by his large establishment, composed of the many served and their servitors. We are authorized by our own observations, and by Mr. Lürman's books to say, therefore, that his investments in farming yield him, after and beyond

a family supply, six per cent. and upwards; but they yield more than this, in the healthy action on the minds of all around him, in the cheerfulness of the entire ménage, and the physical health of all the establishment.

This is a pleasing picture—it is one not always presented—we might say not often—but it is nevertheless within the reach of the rich if they will take the same pains as our host has done to make himself acquainted with the necessary details, the system and the routine of farming, cropping, &c. One of Mr. L.'s prominent maxims is, never to put a dollar on the farm without a near or almost certain prospect that it is not thrown away. He deprecates the neighborhood of the merely rich who come from cities or elsewhere *to farm*, because their expense is too often devoted to producing show and effects for other people's eyes, rather than an example for those less able to afford a large expenditure. With us, he looks *forward*; he sees that with the acquisition of wealth comes extravagance too generally, and he naturally asks, where is all this to end? In an hundred years from now, if so much land is taken from the producing to the non-producing class of farms, where is our food to come from? Already, it is asserted from high authority, that even the former great agricultural State of Ohio is beginning *to import its food*, so many persons are turning their attention to manufacturing, so many are employed on railroads and their appurtenances, such numbers have become rich by the rise of property, and from want of a proper taste for rural life have become consumers instead of producers; and in addition land is so badly tilled and so soon exhausted, that there are serious fears entertained by thoughtful people that America, "inexhaustible," great America, is in a fair way of some time, and at no distant time, taking a century as a short period of history, of not supporting her most rapidly increasing cities—her most wonderfully increasing population.

Mr. Lürman farms four hundred of his six hundred acres, entirely with free labor, as more profitable than slaves, in the field. His routine of cropping, on the old Pennsylvania plan, is as follows:—

The farm is in five fields, varying from 80 to 100 acres. He breaks up the pasture field in the fall and plants it with corn the next spring. The ensuing spring it is ploughed up, and one-half is seeded with barley, and one-half with oats.

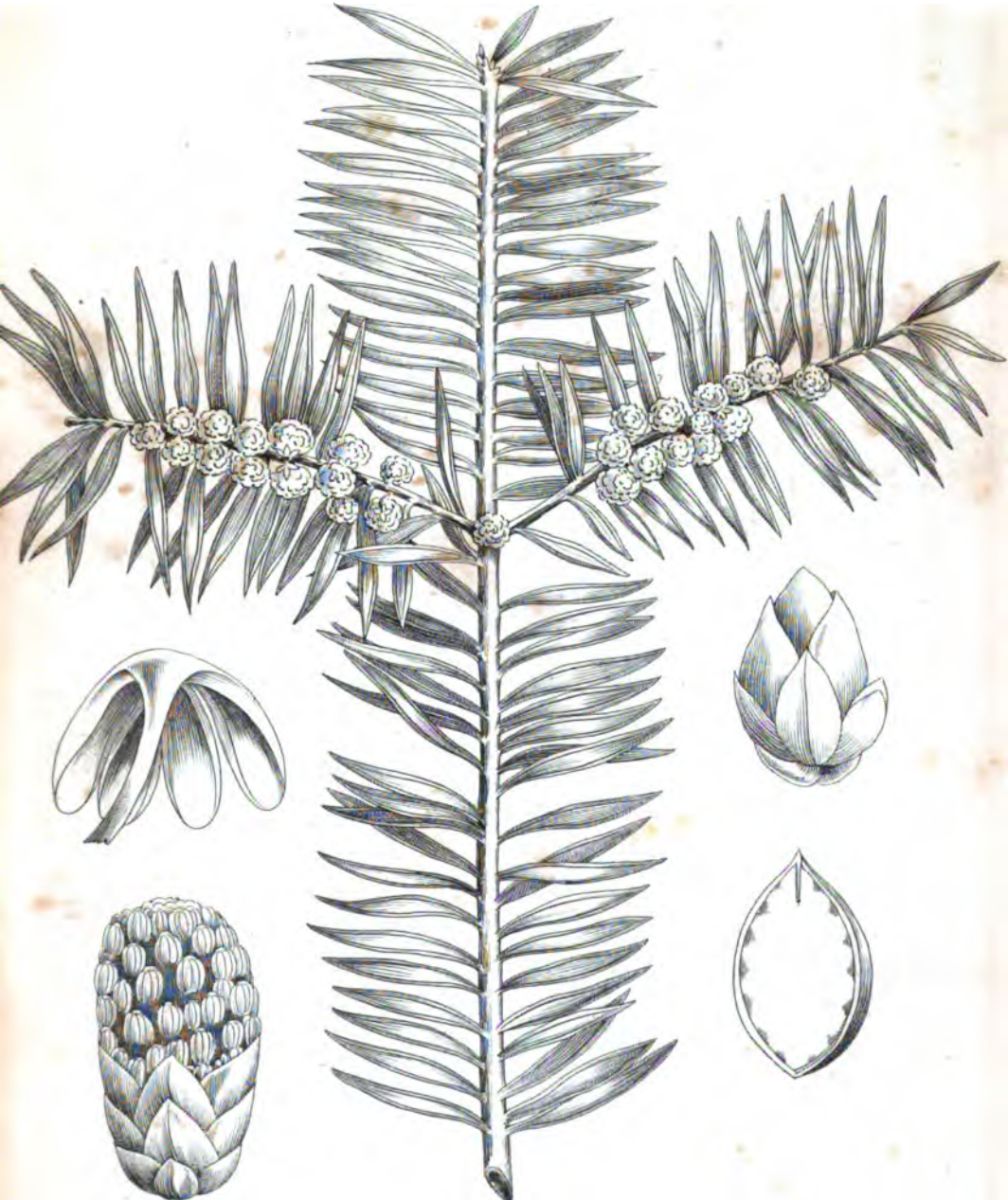
When these crops are off, it is ploughed deeply with three-horse ploughs for wheat, which is seeded from the 20th of September to the 5th of October, when 300 lbs. to the acre of the best Peruvian guano has been put on.

The ensuing spring, say in March, red clover is sown on the wheat; the first crop of clover hay thus comes the fourth year after commencing the system. The second crop of clover is cut for seed if the season is favorable; if not it is pastured, occasionally by droves of cattle going eastward, the owners of which all know Mr. L.'s superior fields; the pasture is greatly benefited by droppings, and a revenue also obtained.

The fifth year the field is permitted to rest in pasture. The consequence of this system is that we always have

One field in corn,
 " " " oats and barley,
 " " " wheat,
 " " " clover and timothy,
 " " " pasture.

So that every fifth year the land returns to the same crop; the advantage of this system is, that by giving two spring ploughings for the corn and oats and barley



TORREYA TAXIFOLIA.

crops, and one in the fall succeeding the spring ploughing, when the field is put in wheat, the soil is thoroughly pulverized and weeds exterminated.

In breaking up *new* soil, it is proper to put fifty to one hundred bushels of oyster-shell or stone lime to the acre, and ten to twenty bushels of bone-dust thoroughly pulverized, which in practice is found to be more efficacious than bones dissolved in acid. The manure of the farm is also composted, spread, and ploughed in.

To many there may be nothing entirely new in all this, but we write and publish for others who are new to the business of farming, and who have seen more of the routine of the counting-house than of the field; they may here read the experiences of a practical man turning his acres to good and profitable account, a merchant ploughing the ocean at the same time with his clipper ships, banking in town for others, and in various ways contributing to the good of his fellow men.

On this farm there is a peach orchard of forty acres, the sales from which, in one year, have produced 2000 dollars; cherries to the amount of 409 dollars have been sold in one season to Baltimore middle-men.

One of Mr. Lürman's excellent rules is "strict justice to man and beast;" all are treated thus, and with a certain degree of liberality; the hands are thus his attached friends.

And now for Mr. Lürman's calculations of the profits made by a gentleman farmer:—

500 acres of land, of which in wood, and pleasure-grounds, orchards, &c., 100 acres, at \$100 per acre \$50,000

Inventory.

| | |
|---|---------|
| 12 mules, or horses, or mares, at \$125 | \$1,500 |
| 20 cows, and bull | 1,000 |
| 20 sows, and boar | 200 |
| Chickens, ducks, geese, turkeys, &c. | 100 |
| 2 yoke of oxen | 200 |
| | 3,000 |

Implements.

| | |
|---|-------|
| 2 six mule wagons, for hauling with hay body or harness | \$600 |
| 4 carts and ox carts | 200 |
| Ploughs, harrows, and all other smaller implements | 200 |
| Thrashing machine fans | 100 |
| Horse power for six horses | 200 |
| Furniture for house of hands | 100 |
| 100 sheep | 200 |
| One year's wages and labor, eight hands and two boys, and finding | 2,000 |
| Fencing, probably | 1,000 |
| Seed wheat, corn, oats, clover seed, and timothy | 500 |
| Keep of horses, cows, &c. | 1,000 |
| | 6,000 |

Manures.—400 Acres.

| | |
|---|---------|
| 1st year, 50 bushels lime to the acre | \$1,000 |
| 2d " 10 to 20 bushels bone dust to the acre | 2,000 |
| Guano on 80 acres wheat, 250 lbs., at 2½ | 500 |
| | 4,100 |
| Family expenses | 1,900 |
| | 15,000 |

The division of 400 acres arable land in five fields of 80 acres each, and the rotation of crops, as follows:—

Break up a sod in the autumn and winter: first year, corn; second year, oats or barley, or both; break up in the autumn, harrow and seed, third year, wheat; sow clover or timothy; fourth year, in clover; fifth, pasture.

This system will insure a clean wheat crop, but requires manures, and will then annually improve the land.

| | | <i>Produce.</i> | |
|-----------------------------------|---|-----------------|----------------|
| 80 acres corn, at 50 bushels | . | . | 4,000 bushels. |
| Consumed | . | . | 2,000 " |
| For sale | . | . | 2,000 " |
| 80 acres oats and barley, at 30 | . | . | 2,400 " |
| Consumed | . | . | 1,400 " |
| For sale | . | . | 1,000 " |
| 80 acres wheat, 20 and 25 bushels | . | . | 1,800 " |
| Of seed wheat | . | . | 150 " |
| For sale | . | . | 1,650 " |
| 80 acres in clover or timothy | . | . | 80 tons. |
| Consumed | . | . | 50 " |
| For sale | . | . | 30 " |
| Therefore, gross sales— | | | |
| 2,000 bushels corn, at 50 cents. | . | . | \$1,000 |
| 1,000 " oats " 40 " | . | . | 400 |
| 1,650 " wheat " 1 50 | . | . | 2,475 |
| 30 tons clover " \$10 | . | . | 300 |
| 40 " straw " \$8 | . | . | 320 |
| | | | 4,495 |

It is further supposed that the increase of stock will amount to—

| | | | |
|--|---|---|--------|
| 4 colts, at \$30 | . | . | \$120 |
| 20 calves, at \$10 | . | . | 200 |
| 60 shoats, hogs, at \$15 | . | . | 900 |
| 20 lambs, at \$2 | . | . | 40 |
| 40 wethers, at \$3 | . | . | 120 |
| Wool | . | . | 75 |
| Chickens, ducks, geese, turkeys | . | . | 100 |
| | | | 1,555 |
| 100 cords of firewood | . | . | 300 |
| 1,500 lbs. butter, at 40 cents | . | . | 600 |
| | | | 900 |
| Gross receipts | . | . | 6,950 |
| Probable annual expenses— | | | |
| Taxes—say | . | . | \$ 150 |
| Labor—found on the farm— | | | |
| 4 hands, at \$12 per month, | . | . | |
| 4 " " 10 " | . | . | |
| 2 " " 8 " | . | . | |
| 2 women for dairy, and poultry yard, six persons | . | . | 1,872 |
| Blacksmith | . | . | 150 |
| Wheelwright | . | . | 150 |
| Saddlery and harness | . | . | 160 |
| Groceries for farm hands | . | . | 100 |
| Extra labor in harvest | . | . | 200 |
| Incidentals | . | . | 278 |
| Total expenses | . | . | 3,000 |
| Net proceeds | . | . | 3,950 |

The following is Mr. Lürman's estimate of the cost and returns of his wheat crop, which, it must be observed, furnishes the annual profit of his farm :—

| | |
|---|------------|
| 2286 bushels wheat, producing | \$4,284 83 |
| Guano, 11 tons | \$559 42 |
| Seed wheat, 160 bushels, at \$1 85 | 285 |
| “ 10 “ at 2 | 20 |
| Ploughing 95 days with three mules, at \$3 per day | 285 |
| Harrowing 30 days, at \$3 | 90 |
| Seeding, ditching, picking off stones, and grubbing | 125 |
| | <hr/> |
| | 1,364 42 |
| | <hr/> |
| | \$2,920 41 |

60 tons of straw, at \$10 per ton, is equal to harvesting, threshing, and hauling the whole crop.

The above system of cultivation is arranged for land which requires to be cleansed and brought up in fertility, and being the homestead of a family; in fact, what the English call a *carse* farm. The 100 acres set aside for orchards, truck patches, paddock, pasture lots, &c., may produce, in fruit sales, a large revenue, say from 1,500 to 2,000 dollars, when the access to market is easy. This is a result which entirely depends on the personal attention of the proprietor.

On this farm a large family is also supported in elegance and luxury, with horses, &c., in ample abundance for all. The example is one which we deem it useful to exhibit to our readers, and, in doing so, we might enter upon a contrast of the independence, the good, cheerful *wholesomeness*, in all senses, of such a life of active usefulness, and the hum-drum routine of the plodding merchant, the mere distributor of cotton bales, or manufactured fabrics.* The one is a *man*, with open hand and open heart, careering over his own acres, in health and hearty enjoyment, and with a distinct individuality; the other, often a man also, but man in confinement, and deprived of fresh air, fresh thoughts, and that intercourse with nature which is his birthright, and without which, it seems to us, he too frequently dwindles away till there is little left of him. Where so well as in the country, can we find the pursuit of tastes which result in making “a little world of the family home, where truthfulness, beauty, and order, have the largest dominion.”

What is the reason of the difference between the smile with which the mere dealer in money or in cotton meets his family, and the genial air of the farmer or horticulturist among his home circle? The money or cotton dealer's topic, on which his mind most dwells, is not a congenial one with his wife and children, while the pursuits of the cultivator and improver are interesting to all; they can all participate in what is going on, feel a sympathy in progress, and enjoy the products of labor done under their own eye. The relish is, somehow or other, a very different affair.

We would exhort the young to cultivate those pursuits which will be no incumbrance under the pressure of business, or of adverse circumstances, but which will constitute the highest ornament of their prosperous days, and the most delightful companions of their leisure. Among such pursuits, we should undoubtedly place agriculture and horticulture as the first, as a resource in age and prosperity, no less than in adversity; when such knowledge may be turned to profitable account, they have no rivals.

In a future article, descriptive of “Country Places” around Baltimore, we shall give an account of the horticultural improvements of this beautiful place, which contains one of the best collections of evergreens, ornamental shrubbery, and extensive dressed walks within our knowledge.

* “When Cressus, in Herodotus, suggested to Cyrus the means of making his Lydian subjects harmless for warlike purposes, he advised him to teach them to sing, and to dance, and to open retail shops, as the surest of all methods for destroying their pristine manliness.”
—*Blackwood's Magazine*, April, 1856.

PHARBITIS HISPIDA.—CHOISY.*

Variety 1. White flower, striated with blue. 2. Kirmisine. 3. Violet.—*Convolvulaceæ*.

JUDGING from the graceful appearance which this group of *Twiners* presents, the natural mistake of supposing that the three flowers all grow upon the same stem might be readily made. This, however, is not the case, and, although a combination of this kind would not be strictly impossible among a particular species, exactness obliges us to say that the subject before us consists of three specimens of distinct varieties, represented, for convenience sake, on the same plate. This artifice, moreover, authorized in similar cases by numerous antecedents, can happily be reproduced in nature, at but little expense, and on a larger scale. It is enough to join on a single lattice-work the slender and trailing stems of the varieties in which the colors harmonize with the greatest effect. This is a question of taste, where the difficulties and merit must be left to amateurs. The essential part for the horticulturist is, to furnish the most worthy elements to place in such fancy baskets or groupings. For the purpose, better specimens could not be presented than the three flowers here represented.

The name of *Pharbitis Hispida*, familiar to botanists, and the only one which they now adopt, designates the old *Convolvulus purpureus* of Linnæus, or the common *Volubilis* of our gardens. It is a plant of American origin, circulated by culture to nearly every point of the globe. The botanist Parkinson cultivated it, in England, in 1625. These flowers, which come five or six together, vary singularly in color, and offer all the shades of white, rose, and violet, and of these mixed.

Culture.—As soon as the colds of winter are passed, about the last of April, the seeds are planted in any earth and any exposure—that of the south is preferable. Or even, to hasten the plant, four or five grains may be put in each pot, in a bed under a frame, in the beginning of April, giving as much air as possible in moderate weather. When ready to plant out, remove them carefully, without breaking the soil.

The flowering begins in June, to end only with the frost. The seeds ripen in autumn.—*Flore des Serres*.

ON THE USE OF AMERICAN EVERGREEN SHRUBS,
AND ON ROCKWORK.

BY EUGENE A. BAUMANN, NEW YORK.

SINCE my residence in the United States, in the numerous beautiful gardens which I have visited, many of which scarcely admit of improvement, I have not yet seen a very judicious application, nor a very discriminating use of the magnificent Evergreen shrubs which grow so profusely in North America.

In England, in France, and in Belgium, these elegant shrubs are so highly appreciated, that a garden, however small, which does not contain a clump or cluster of them can scarcely be found; and frequently sums are expended in the ornamentation of a small corner only, which would suffice for the arrangement of a whole garden; for all localities are not equally favorable to the cheap creation

* See Frontispiece.

of these luxuries, which certainly repay the outlay by the richness of their verdure and the brilliancy of their flowers during the most pleasant months of the year.

It may likewise be observed that the most neglected spots of the garden are generally most adapted to the cultivation of these shrubs; where the hand of the gardener seldom reaches, will be found their favorite localities; barren sites on which nothing else will grow, may be transformed into delicious bowers, affording, during the intense heat of summer, a cool and shady retreat, surrounded by flowers and verdure of unequalled elegance.

Moreover, almost all localities in this country offer great facilities for the successful culture of these shrubs, and groups of them may be formed at the same expense as of those of any other kind, the most suitable species being nearly always either at hand, or close in the neighborhood.

Any one who has seen a group of judiciously selected Rhododendrons mingled with collections of American or of Pontic Azaleas (*Az. Pontica et var.*) of the *Kalmia Latifolia* (Laurel), *Angustifolia*, *Aubra*, of superb species of *Andromeda*, *Mahonia*, *Euonymus*, and various other species, will hardly refrain from similarly ornamenting their own plantations, and thereby rendering a neglected spot one of the most attractive on their estate.

The neglected spots just spoken of are those on the northern aspect of the dwelling-house, and places shaded by lofty trees, chiefly pines, under which shrubs with deciduous leaves, and other plants, grow with reluctance, leaving the ground bare and unsightly; the shady sides of ravines and hills, particularly if provided with rocks, present more facilities for the picturesque than any other location.

Carriage and other roads in the vicinity of the dwelling-house, frequently leave empty spaces which it is desirable to fill with agreeable objects; in locations having a suitable exposure, the hiatus may be supplied by perennial, annual, or bulbous plants, but those deprived of the sun generally remain barren.

The following remarks may have a tendency to attract attention to this subject, and have the effect of beautifying and adorning spots now neglected and waste.

Starting from the principle that the Evergreen shrubs of temperate climates have mostly been intended, by nature, for places too long deprived of light, or other circumstances favorable to vegetation, localities in which the time necessary for these trees to annually renew their foliage is not afforded them, there can be nothing more rational than their employment in gardens for the embellishment of similar localities.

These localities are generally those parts of the forest most thickly covered with high trees; the Evergreen shrubs are found growing beneath, most of them, if not all, deprived of light; or they will be found in lofty elevations, capped with snow during the greater portion of the year, where they have but a short space of time to develop their flowers, and make a growth which renews, at best, only a tenth of their foliage.

In these same localities, as in marshy and shady places, there will always be found a soil excessively rich in vegetable matter; black earth, composed of decayed leaves, or rotten wood; this observation indicates the kind of earth necessary for these plants. The black mould of swamps, exposed to the frost of winter, or the sun of summer, is also excellent, and more easily obtained; where both are wanting, their place may be supplied by the earth collected from the adjacent forest.

Be not alarmed at a deficiency of quantity; these plants require but little soil, and thrive perhaps even better, provided the quantity be replaced by a quality made more congenial to them by the admixture of rocks, portions of decayed trees, etc. etc.

If, therefore, you have a location exposed to the north, where the sun rarely or

never darts his rays, and you wish to fill it with plants, you should first prepare the ground; remove the existing soil, if you desire to retain the same level; if, on the contrary, an elevation is desirable, make a picturesque collection of rocks to the height required, and cover them over with the aforesaid earth, after having arranged at the bottom a layer of stones, which may act as a drain.

I will subjoin, hereafter, a list, as complete as possible, of all the plants which may be advantageously employed in the construction and adornment of these groups, pointing out, in the first place, the most lofty, in order to facilitate a well varied arrangement which may offer, at one view, a general aspect of all the different genera.

First of all, I will name the *Rhododendrons*, *Maximum*, *Ponticum*, *Catawbiense*, *Caucasicum*, and all the numerous and superb varieties found in European establishments.

Whatever may be said to the contrary, all these *Rhododendrons* are equally hardy; if the *Ponticum* is supposed to be too delicate for the climate of this country, it is because it has been crossed with the *Rh. Arboreum*, for, when uncutnaminated, it suffers as little as the *Rh. Maximum*, particularly if sheltered from the sun in winter.

After the *Rhododendrons*, and growing to nearly the same height, comes the *Ilex* with its superb varieties, bearing plumes of flowers, the *Mahonias*, and some species of *Berberries*. The list may be completed by the addition of some of the green, resinous trees from the genus *Taxus*—*Taxus hybernica*, *murifera*, and, especially, the *ericoides*; *Libocedrus Doniana*, *Cephalo-Taxus adpressa*, and many of the *Junipers*.

In the second place—that is, for those of lesser growth—we may select the whole series of American and Asiatic *Azalcas* (*Az. Pontica*), and their brilliant varieties.

The *Kalmia latifolia*, *Andromeda*, *Clethra*, *Comptonia asplenifolia*, may in their turn be admixed with some species of *Rhododendrons* of less elevation, such as *Rhododendron Adansonii* (hybrid), *Rh. Ponticum*, *Rh. Ponticum salsifolium*, and many others.

In the third row, the following may be planted: *Andromeda polyfolia*, *Andromeda Mariana*, and *Andromeda dealbata*; *Kalmia Angustifolia*, *Kalmia rubra*, and *Kalmia glauca*; *Rhodora canadensis*.

In the fourth and last class, or, rather, in the first, commencing at the lowest point, we may have an abundant choice in all the following species: *Daphne Gnidium*; *Erica cinerea*, *Erica herbacea*, *Erica spinosa*, *Erica vulgaris*, and var.; *Dryas octopetala*, *Gaultheria procumbens*, and *Shalloon*, which may be used as a border or edging; the *Ledum*, *Menziezia*, and, lastly, the *Empetrum* and *Polygala Chamara buxus*.

We may also plant with very good effect, in the first row, several beautiful Ferns, perennial and bulbous flowers, as the *Lilium lancifolium*, *Philadelphicum*, etc., and *Cypripedium pubescens* and *spectabile*.

It need scarcely be added, that the employment of various shrubs with deciduous leaves in their groups, is equally correct; and we may select, with great advantage, those which flower early, and are more liable to suffer from a late frost in the spring, as, for example, the *Magnolia purpurea*, *Yulan discolor*, *Soulangiana*, the *Pavonia arborea*, and various others.

These groups, when once planted, require but little care, their demands being limited to a copious supply of moisture during the summer, and a covering in winter to protect them from the rays of the sun, which, be it understood, is not intended to shield them from the cold, and should consist merely of a roof of coarse canvas, or of straw matting.

The beauty and value of groups made nearly exclusively of North American shrubs, are at this day so highly appreciated in England, that the London Royal Botanical Society established, some years ago, the American garden, in which the trees and shrubs of America are cultivated to the exclusion of all others. The beauty of this garden is so freely admitted, that many horticulturists avail themselves of the opportunity given, by the crowds which frequent it during the flowering season, to exhibit any valuable or rare specimens which they may possess.

They bring from a distance of thirty, forty, or fifty miles, specimens of *Rhododendrons*, *Kalmias*, and many other plants, far surpassing in beauty those of their native climes, and proving the efficacy of a well directed and judicious system of horticulture. In this country, the expenses necessary in Europe may be avoided, for whilst, in England, a fine specimen of *Kalmia latifolia* is worth from ten to twenty dollars, it may be here procured without any trouble, or scarcely any cost, on the shores of the Hudson, or in any of the forests.

Another advantage which accrues to the amateur is, that these plants, when once transplanted, may be retransplanted annually without risk, and that they admit of being forced without danger.

Those most covered with flower buds are removed in autumn, and put into pots, in which they are removed to conservatories to be forced. When judiciously treated, they will flower as early as March, frequently in February. In May or June, they may be restored to their original localities, and others may be taken thence during the following year.

[The foregoing essay, in a spirit of excellent taste, has been kindly furnished as by Mr. Baumann, in French; on making a translation, we are much pleased with it, but must caution our friends at the North how they adopt all the plants mentioned, some of which, we fear, might not be hardy; but we can see no reason why those *known* to stand our winters should not be thus employed; the suggestion of planting in the shady and unemployed parts of the garden, should be remembered.—Ed.]

VISITS TO COUNTRY PLACES, NO. 5.

Hyde Park, seventy-five miles above New York, was formerly the residence of Dr. Hosack, and well do we love to chronicle, late though it be, a visit there with that noble specimen of a high-minded class of Irish gentlemen, the son-in-law of the doctor. Jacob Harvey, Esq., was among the most ingenious, open-hearted, excellent of men; a humorist of the rarest talent, Mr. Harvey never failed to win the heart of all with whom he came in contact. It was he who favored the public with those remarkable reminiscences of John Randolph, with whom he made one or two voyages to England. A mutual admiration and friendship ensued, and more racy and entertaining matter than Harvey's recollections of the statesman were never written.

Hyde Park passed into the hands of the late Walter Langdon, Esq., who married a daughter of John Jacob Astor; his son, of the same name, is now the owner of what Downing justly calls one of the finest specimens of landscape gardening in America. The house is a most graceful and elegant mansion of the composite order, with a *façade* of one hundred and fifty feet, designed and built by Platt, of New York, and finished in stucco.

The number of acres, about one hundred and seventy, embraces fine drives, the most superb river views, extending over sixty miles of the course of the noble

Hudson. There have been erected extensive greenhouses and graperies, besides those of Dr. Hosack.

A most remarkable and distinctive feature of Hyde Park above all the other places on the river, is the terrace bordering its whole front, at a distance sufficiently remote from, and elevated above, the river to give to the landscape both ample foreground and great extent of view—a terrace so artificial in its appearance, as that one with difficulty realizes that it is nature alone which has made it.

The approach from the village is particularly striking, passing as it does over a fine sheet of ornamental water by a very handsome and highly architectural bridge.

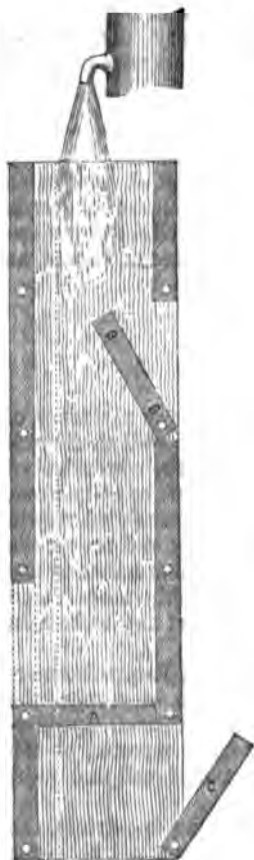
"Far to the South, a mountain vale retires,
Rich in its groves, and glens, and village spires ;
Its upland lawns, and cliffs with foliage hung,
Its wizard stream, nor nameless nor unsung ;
And thro' the various year, the various day,
What scenes of glory burst, and melt away."—ROGERS.

The pleasure grounds are extensive ; much planting with artistic effect has been done, and it will be safe to say that this spot, framed by nature and embellished by art, combines within itself as much beauty as is comprised within the same space in any part of our country.

We found Mr. Langdon busily engaged with his horticultural projects and improvements, disposed to fully realize the enjoyments such a place affords. From a fine stream on the place, he has an ample supply of water, which is conducted everywhere by hose and pipes, enabling the gardener to "make it rain" on his crops when others suffer from drought. In the large kitchen garden, we remarked a simple mode of irrigation extremely useful to such articles as strawberries ; indeed, these beds were undergoing a thorough drenching while we were there. The idea was suggested by something similar which Mr. Langdon had seen practised in Switzerland, and as it is so simple that everybody may adopt it whether they have a supply of water from a ram, a hose, or even a pump, that we shall describe it.

A simple trough of wood, running inside the box-edging like a gutter, perhaps six inches wide and high, with sluice ways, every few feet, formed by pieces of the sides cut out, and turning on a pivot in the centre, which, when open, shuts off the water from further progress down the trough by falling back against the side, and allows it to escape through an opening wherever it may be wanted. The artist has represented the elevated sides in the cut as too low ; they might be made higher ; in short, it is simply a flat trough with movable sides.

This beautiful place was laid out by Parmentier. Downing says it was for a long time the finest seat in America, but that "there are now many rivals to this claim." This is very true, but, in natural beauties, we may safely doubt if it will ever be exceeded. It has, too, a great advantage over most "rivals," in its fine



natural growth of trees, which have been aided and connected together by judicious additions. It has long appeared to us as one of the most *satisfying* country places extant on this continent.

Annandale, some twenty miles above, and near Barrytown, was commemorated by Downing as *Blithewood*, then the seat of R. Donaldson, Esq., in his *Landscape Gardening*, with a lover's praises. It is now the property of John Bard, Esq., who has changed its name to Annandale. Numerous improvements have been made by Mr. and Mrs. Bard since they came into possession, and many others are in progress which must render it a very perfect example of all that is desirable in a country-seat. The river is four miles wide here, with islands interspersed,* and a full view of the Catskill Mountains on the opposite side, with their ever-varying shadows, sunshine, and clouds. Fine groups, and masses of trees and shrubbery, beautiful fountains, walks, drives, and, to this, hospitality and open-handed charity added, we give to Annandale the meed of extraordinary attraction and beauty.

The great water tower here, supplied from the noble brook between Mr. Bard's and Montgomery Place, is admirably contrived.

Perhaps one of the most agreeable features at Annandale, is the great interest which the amiable proprietors take in the moral improvement of the neighborhood. With a noble and praiseworthy liberality, they have, we understand, established, at their own expenditure, large and successful schools and churches, both upon the estate and at the neighboring village, where the whole expense of the erection of the buildings, the salaries of the clergymen and teachers, are defrayed from their private purse.

It is, we believe, the intention of Mr. Bard to erect a mansion of a size and dignity commensurate to the beauty of the place. Many persons with his ample means, would perhaps have done this at once, but he, with a forbearance beyond all praise, preferred to render unto God before rendering unto Cæsar.

Annandale was planted by John C. Stevens, Esq., Admiral of the New York Yacht Club, who is still living; though his trees look old, he is not so, thus showing a successful instance of planting attaining perfection in the lifetime of a single individual. John C. Cruger bought it of Mr. Stevens.

Mr. Bard is erecting fine conservatories and forcing houses; he already possesses a stove, and other arrangements, for winter use. A new dwelling in every respect worthy this fine property of nearly two hundred acres, is to be constructed the ensuing season.

It was here that we remarked the fine groups of artistic Milan tables and chairs noticed on page 412.

The Palisades.—Though we are not just now in the region of the Palisades, in thinking over the extraordinary beauties of the Hudson, it occurs to us to remark that we have never been able to find an individual who knew what was atop of those wonderful formations of rock. Are these heights accessible? What kind of country lies on their immediate rear? We have often thought what magnificent castle-looking houses might be erected there for the delectation of tourists in search of the picturesque; what fame might be bought, for a small sum, by imitating a Rhine castle there. Think of it some of you millionaires of commerce, and give us something to "visit" and talk over, which will be entirely new, and handsome, and graceful, and feudal looking. But is there anything up there to eat? That is one of the greatest preliminary questions, and before concluding our trip "Around New York," in the January number, we pause for a reply.

* Upon the extreme point of one (Cruger's Island), is a fine group of ruins brought from Palenque by the late John L. Stevens, and remarkably striking in their effect.

FOUNTAINS.



Fig. 1.

In his *Classical Tour*, Eustace states, if our memory does not deceive us, that Rome had fifty-two rivers flowing through her proud streets in the period of her greatest prosperity, supplying fountains of every variety and model, and dispensing health. Many of these rivers must have been small, as little as what we call creeks, but the evidences of the fondness of her people for pure water are still extant in her broken aqueducts, or those which now supply the gushing streams still more numerous than in any other city.

The beautiful custom of erecting ornamental fountains has extended of late years among ourselves, and we give an illustration of one made in this city, of cast iron, by Mr. Robert Wood, Fig. 1.

Porcelain Fountain.—We have heretofore alluded to the importance to Art of the introduction of Parian into common use. Messrs. Copeland have made many lovers of statuary by their comparatively cheap statuettes now found in every house; and several others are

little behind them. We present an engraving of a porcelain fountain, Fig. 2, of this manufacture, whose elegance will at once commend it to the reader. The

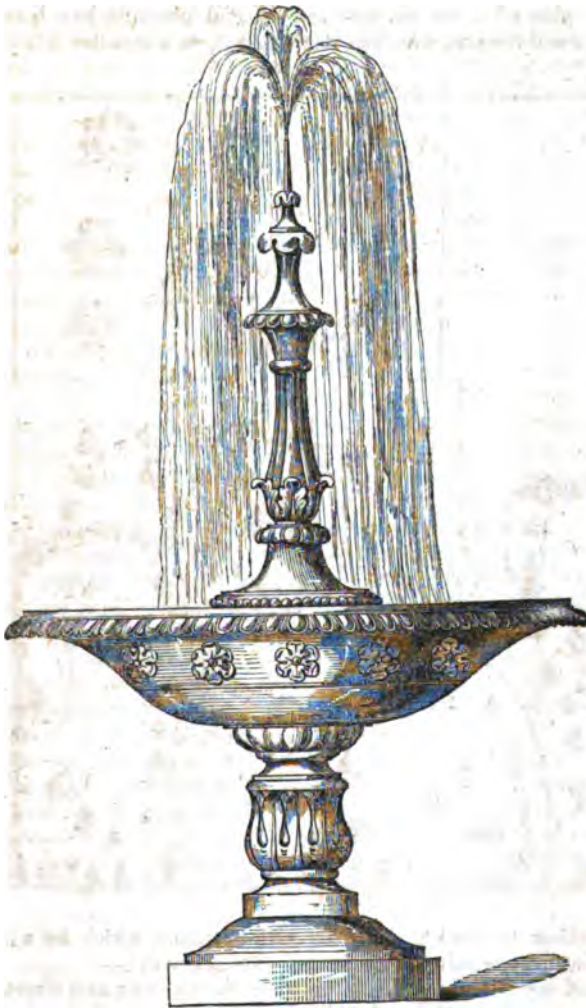


Fig. 2.

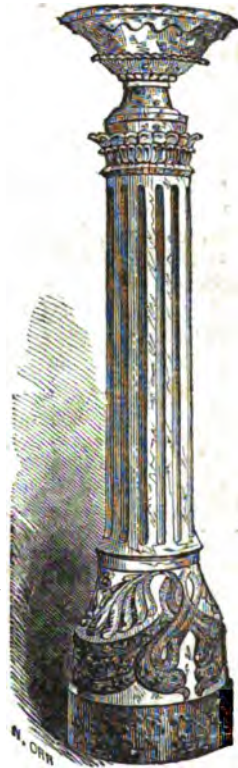


Fig. 3.

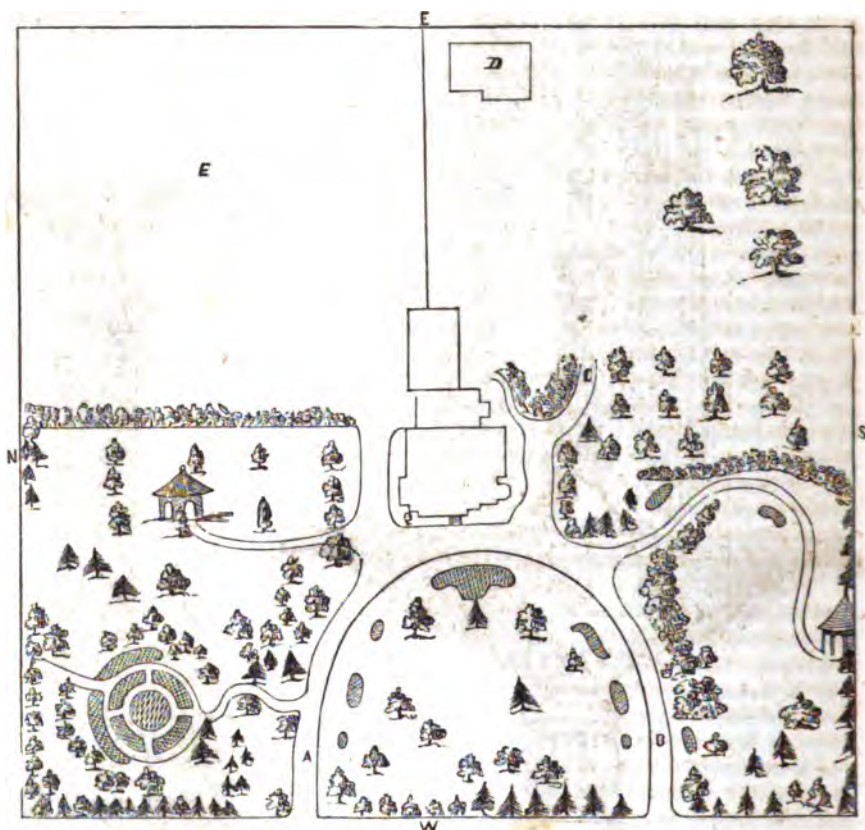
ground color is an orange red, bearing white rosettes, while the remaining decorations are gilt. Its height is about four feet.

We also copy a column in Parian, designed for a parlor ornament, to hold a flower pot. Fig. 3.



PLAN OF GROUNDS.

THE following excellent plan of a *rus in urbe* garden and grounds, has been forwarded by one of our valued friends, who has described it, in a familiar letter,



so well as to leave us nothing to do but copy his own remarks, which he will pardon, as, at his own request, he withholds his name. He remarks:—

“In describing it, I would say that the grounds between the dwelling and street, *should* have been represented one-fourth longer, the land being a parallelogram, and two acres in extent. *A* is the main walk, leading from the street to the house. *B*, the carriage-road. *C*, road leading to the back yard and stable at *D*. *E* is the kitchen garden. This garden is sheltered by a screen of *Privet* on the west side, and a high, tight fence on the north. The ground in front of the house is sheltered by a screen composed chiefly of evergreens. This was done partly on the score of taste, and partly for the protection to be secured in winter. The trees used for this purpose are the White, Austrian, and Scotch Pines, American Arbor Vitæ, Hemlock, Norway Spruce, and American Black Spruce. The screen between the two gates in front, is made of Norway Spruce. A portion of this is

kept pruned low, in order to preserve a fine view from the piazza and parlor. On the north side of the main walk, a path leads to a flower garden, chiefly of herbaceous perennials, dahlias, and annuals. This is surrounded by shrubs and low trees, and is concealed from the street, and the other walks within the premises. In the group of evergreens directly south, is a rustic seat, from which to enjoy the garden. The effect of this gay scene to one coming upon it unexpectedly from the main walk, is quite striking. The lawn in front of the house has beds cut in the turf for herbaceous perennials, perpetual roses, and various bedding plants. The trees are so arranged here as to preserve a fine view of a broad valley, a hillside and a distinguished literary institution. The prospect, in other directions, being indifferent, and the winter winds very strong, the trees have been left to grow as they listed.

"There is a grass terrace on three sides of the house. On the northwest corner of this stands a vase; on the south side are beds of early flowering plants. Directly north of the house is a small collection of standard pear-trees; on the south side is a collection of dwarfs. These and the rear premises, are screened from the front view by a plantation of evergreens and low trees. A walk leads from the dwelling to a summer house, built around the trunk of a huge elm, standing near the south line of the premises. By the side of this walk are two oval beds of choice roses. This part of the grounds is secluded from the rest by low trees. Thus there are three distinct scenes in the pleasure grounds.

"There are the following somewhat rare ornamental trees on the premises: *Virgilia lutea*, Purple Sycamore, Japan Maidenhair tree, Kentucky Coffee, Deciduous Cypress, Tulip-tree, *Magnolia acuminata*, New American Weeping Willow, Weeping Linden, Weeping Purple Beech, European Weeping Ash, Oesperdawn Weeping Elm, Huntingdon, Cornish, Dutch Cork-Barked, English Cork-Barked, and Purple-Leaved Elm; *Pinus Esocoides* and *P. Cembra*; Siberian Arbor Vitæ, *Picea pichta*, *Abies Menziesii*, Swedish Juniper, and English Yew.

"This is as far as I have yet attained. I shall probably modify the plan from year to year as I learn more. But this, as it now is, affords me great satisfaction, and strikes favorably many who visit it. Perhaps it may furnish some hints to others, imperfect as it is. The summer house is covered with honeysuckles and climbing roses; the pillars to the piazza of my house, with Scarlet Monthly Honeysuckle and American Ivy; and the south summer house with the same Ivy running up into the Elm which arches over it. The Elms in front of the house are trained high, so as to preserve the view under their branches, and the other trees are *shrubs* (*Hibernice*!), or low trees, kept low.

"But I must stop, or I shall soon be bringing my wife and children into the description."

THE CULTIVATION OF EXOTIC GRAPES UNDER GLASS.

BY THOMAS LEARMONT, GARDENER.

A FEW practical remarks on the cultivation of exotic grapes under glass, will be interesting to some of the readers of the *Agriculturist*. Frequent attempts have been made to cultivate this delicious fruit in the open air, without success. In the summer of 1852, my employer, Mr. Henry Lyons, of Columbia, S. C., erected a cold graperie sixty-two feet long by twelve wide, what is called a lean-to house, fronting southeast; the back wall of bricks sixteen feet in height, the front resting on brick pillars one foot above the ground, and three feet apart; upright sashes three feet long, movable for ventilation; wooden ventilators at the top one

foot wide by seven long, raised from the back by cords. The sashes of the roof remain stationary. In making the border, the expense was small. The material used was twenty tons of well-rotted stable manure, and two tons of rough bones. The surface soil was of a light, sandy nature, with a subsoil of red, sandy clay, and dry bottom. The ground was trenched two feet six inches deep, a layer of bones put into the bottom of each trench, and the manure mixed with the soil as it was turned over. The border is twenty-seven feet wide from the back wall. Cuttings were procured of the following varieties, viz: Black Hamburg, White Frontignan, Muscat, of Alexandria, Golden Chasselas, Black Prince, White Tokay, Black Lombardy, Syrian, Purple Damask, and Palestine, and propagated from single eyes in the month of March, using a slight bottom heat to root them. I planted them, the following July, inside the house, spreading the roots to the outside. The number of vines planted was sixteen to the back, and thirty-two to the front. The quantity planted may seem large for the size of the house. In planting them so close, the intention was to take a full crop the first and second years, thinning them out as they came into full bearing. A vigorous growth was made the first season, covering the trellis to the top. All the lateral shoots were allowed to grow to encourage the growth of roots. In November, the roof was taken off to give the inside border the benefit of the winter rains, and retard the buds from starting too early in the spring. The later they can be kept back, the better. In December, I cut them down to the ground. In March, the following season, I put the roof on, and gave the border a top dressing of well-rotted manure, mulching the outer border with four inches of half-decayed leaves, collected the previous season. A single cane grew to the top, and I then stopped it, also stopping the laterals as they grew. In November, I took the roof off, as in the previous season. I pruned them in December, leaving from seven to eight feet of wood for bearing the following season. By this time, some of the vines measured two inches in circumference. On the 6th of July, 1854, eighteen months from the time of planting, and two years from the bud, the first grapes were cut—the last were cut in November; in all, two hundred and fifty bunches. Last year three hundred bunches were cut, and the average weight of each bunch was one pound. This will be about the crop each year. This season the vines are thinned out, leaving twenty-six vines to bear, and dispensing with those on the back wall altogether. This attempt to cultivate the foreign grape under glass, in this climate, shows, without doubt, that they can be cultivated with better success and less expense than attends their culture in the Northern States. The soil and climate is better adapted to the growth. The vine delights in a light, rich soil, provided the subsoil is dry. Several of the finest varieties seldom come to perfection in the North without fire heat, such as Muscat of Alexandria, Syrian; and they are, also, six weeks earlier here. I hope the success of this experiment will stimulate all lovers of good fruit to erect graperies.—*S. Carolina Agriculturist.*

SUN-SCREENS FOR EVERGREENS.

NEWLY planted Evergreens suffer more from the sun-scorching, to which they are usually subjected the first season, than from all other disadvantages. A valuable specimen is hastily planted out, fresh from the nursery, where it has been grown in compact lines, each row shielding its neighbor, frequently from a different climate, and it is expected to flourish and withstand the usual exigencies of the seasons. It has no fibrous roots to infuse vigor, and as the warm weather stimu-

lates the latent vital organism of the plant into a sort of spasmodic vegetable action, we see feeble and delicate shoots springing from the buds which, growing slenderly and rapidly, immediately afterwards wither and dry up. Defoliation soon ensues, and by midsummer, the sanguine planter finds his hopes of possessing a beautiful Evergreen blasted, and, in its stead, he has only a handful of unsightly brushwood sticking where his cherished specimen once stood. The nurseryman who had properly nurtured and educated the plant, whilst it was under his care, is frequently blamed for its ultimate failure, and tree culture gets a back-set from which it rarely recovers, simply because a little precautionary care was not exercised in properly planting, and protecting it after it was planted.

We adopted, last season, a simple and successful mode of protecting our Evergreen-trees from the sun. Around each tree we drove, in a circle, eight stakes, and taking the long, flexible branches of the common red cedar, nailed them to the framework as high as the top of the tree. Wattling in the straggling sprays, both inside and out, made it a very dense protection. Care should be taken to make the circle sufficiently large, to allow for two years' growth of the plant, after which time the screen could be safely removed, as it would be properly and fully established in its roots. This fixture is not unsightly—in fact, the dark-brown foliage of the cedar limbs, which does not shed off, gives a mellow relief to the surrounding green, and it is thus rendered more picturesque than any other screen that can be made. Any other long-branched twigs thickly wattled in, make a good screen, and a most beautiful ornamental fixture of this kind, lasting in its character, could be made out of the twisted fibres of the long Spanish moss (*Tilandsia Usneoides*). The common flag of our swamps, and broom straw, would serve the purpose, when cedar boughs and moss could not be readily obtained. The ground inside the screen can be mulched, and as the mulching is protected, and cannot be scattered, this process has not to be repeated during the season. The sun's rays from eleven until four o'clock are most injurious, and, if not already attended to, immediately screen all your Evergreen-trees from its blighting effects. Their increased growth and general luxuriance will amply repay you for the small outlay of labor required.—*South Carolina Agriculturist*.

THE WINTER IN CANADA.

BLOOMINGTON NURSERY, ILLINOIS, Oct. 11, 1856.

J. J. SMITH, Esq., ED. HORTICULTURIST.—DEAR SIR: Some weeks since, I addressed a letter to Messrs. Cockburn and Brown, nurserymen, of Montreal, with some statements as to the effects of Western winters on fruit-trees, and inquiring as to their experience in that northern region. In reply, they very kindly forwarded me a most interesting chapter, which (without, however, previously consulting them) I have taken the liberty to copy for the *Horticulturist*, if you deem proper, feeling confident that they will excuse me.

The drought here still continues with unabated intensity; positively, we have not had the ground half soaked once this year, and not half a dozen times has it been wet down three inches!

Very truly yours, &c.,

F. K. PHENIX.

COTE-DES-NEIGES NURSERIES, NEAR MONTREAL, Sept. 19, 1856.

F. K. PHENIX.—SIR: We were duly favored with your esteemed letter of the 13th. It affords us always much pleasure to communicate any information in our power to our brethren in the trade.

With regard to the subject matter of your letter, we have been always much surprised at the accounts we have so frequently seen in the *Horticulturist*, especially from parties at the far West, as to the winter killing of apple-trees. It is a thing almost entirely unknown with us here. During the course of ten years' experience on these grounds, we really cannot say that we have ever found one variety of the apple more tender than another, except, perhaps, the Early Harvest and the Baldwin, and, even in these two cases, we are not sure if we can attribute it to any inherent tenderness in the tree, for the Early Harvest is generally apt to canker and rot at the junction of the limbs and stem. In the case of our losing some young Baldwins, it was perhaps owing to a too luxuriant growth. That there are sorts which seem to acclimate themselves better than others, there can be no doubt. Thus, the Fameuse, Pomme Gris, St. Lawrence, and Bourassa, all natives of Montreal, grow vigorously and well, whilst the Newtown Pippin seems to grow slowly and weakly; but then, we must attribute these differences to the original constitution of the tree, and not to the severity of the climate. We believe that fruit-trees have nowhere ever been put to a severer test than on our own grounds, for the nursery lies on the northwestern slope of the Montreal Mountain, which overlooks the city, and the cold blasts from the Ottawa River sweep over it unbroken. We have experienced a temperature of 35° below zero, and every winter have it approaching 25° or 30° . Before winter sets in, we have some little freezing and thawing, but once the icy king is down upon us, there is little of that. Winter, in its rigor, lasts about four months. Our soil is a light, gravelly loam.

We see plainly that you have a strange and fickle climate to contend with. It must be all traced to that; ours may be called a ripening climate. Our cold, dry falls prepare the trees for the severity of the winters. From the lists you have sent us, it is plain that, with you, some sorts are in reality hardier than others. We have looked carefully over your list, and confess ourselves quite puzzled, for we see the universal Canadian favorite, the Fameuse, so hardy and fine, is occasionally tender at the West, and that hardy, healthy, sprawling fellow, the Rhode Island Greening, put in the same category. One remark we may venture to make, that those classed in your lists as hardy, are generally the most vigorous with us.

Winter killing of trees in the nursery row, is entirely unknown with us, as we have stated above. The snow generally averages about four feet in depth, and forms a valuable covering. In proof of this, we had a small *Cryptomeria japonica* quite uninjured last winter.

We will now name a few of the sorts of apples we have found most worthy of cultivation. Fameuse, the very best fall apple, of delightful flavor, and the tree an enormous bearer. Thousands of barrels are raised hereabouts. The same may also be said of the Pomme Gris, Bourassa, and St. Lawrence, though the Bourassa is rather getting out of favor, as it does not always bear well. Kerwick Codlin, the poor man's apple, and a universal favorite. Kerry Pippin and Hawthorne, very fine. We also name Emperor Alexander, Early Joe, Red Astracan, Sapson, Dorning, R. I. Greehing, Kentish Fillbasket, Rambo, Yellow Bellflower, Stone Pippin, Baldwin, Minshall's Crab or Baker. Ribston Pippin, every way worthy, and grows most luxuriantly. Breden Pippin, small, but good. Golden Pippin, of sorts. Northern Spy, late in bearing; all the Leadingtons do well with us. Montreal Beauty, a Crab, and the best of all. Sam Young, Carroll's Seedling, Pearson's Plate, and Cornish Aromatic, are four old country sorts of exquisite flavor. Carroll's Seedling is one of the best apples we ever ate. Rosemont is a new winter sort, produced in Montreal of first-rate flavor.

The above remarks as to the hardihood of trees, refer to apples alone. When

we come to pears and cherries, we must give a different account. The pears of American origin, such as the Oswego Beurre, Swan's Orange, Buffum, Seckel, Stevens' Genesee, &c., we have found the best and most hardy. All the Bonchre-tiens and Bergamots are as hardy as apples, and have long been the only sorts that could be depended on here. The Scotch and English sorts are also generally hardy. We frequently have winter-killing of the cherry here, especially such sorts as Bowyer's Early Heart, Early White Heart, Downer's Late Red, and Waterloo.

Our plum-trees are scarcely ever hurt in the wood, though the fruit buds above the snow-line are sometimes killed outright. This year, we had an abundant crop of plums. The two new British sorts—Denyer's Victoria and Prince of Wales—are amongst the very best. Corses' Seedlings (of Montreal) are well worthy of cultivation, especially his Nota Bene, a most delicious plum, and very hardy.

The most valuable of the new currants are certainly the Cherry and May's Victoria. The green fruited Black has borne with us, and proves of very fine flavor. We have also fruited the Pearl White, small, but very handsome and good, and of a pearly white color. The striped fruited bore this year and last; not unlike the Champagne, and pretty good. Sperry's White is one of the *sweetest* of all. The Banquet and Black Grape are two of the best blacks. Of raspberries, the old Fastoff still takes the lead, as a market fruit, so far as we have tested, excepting, perhaps, Knevitt's Giant, which we think sometimes a larger. The Flesh-colored we have fruited, and consider it the most delicious of all. It is a raspberry one *can* eat. We have not much of it, but we intend to plant it out for our own use when we can do so. The Imperial is very early, large, and fine. Barnett's Cane, small but very prolific—the Franconia, perhaps, the hardiest of all.

This year we fruited the new Nimrod Strawberry, the very largest of all, and very fine. Mr. Prince *discards* it—why, we know not. Mr. Brown (the writer) spent two years, lately, at home (Scotland). They know nothing of fruits there as we do in America. He could not get an eatable apple till he fell in with some Newtown Pippins.

Respectfully,

COCKBURN & BROWN.

THE TRUE THEORY OF GRAFTS.

It has long been known, says D'Albert, that, in order to preserve grafts, especially for transportation, they ought to be separated from the parent tree before they have begun to grow. They ought then to be placed in a northern exposure, in a horizontal position, on the ground, and covered with earth to about the depth of two inches and a half. They should remain in that position till their buds are well swelled, by which time the stock intended for their reception will be much more advanced, a necessary condition to success. Under all circumstances, they must be so packed as to run no risk of heating. French gardeners often place them in the hollow of an old cucumber, and even pack them in honey, without injury, if they have a long distance to travel; if they are to be conveyed to a distance, it is best to send them off as soon as they are taken from the tree. If the journey require only three weeks or a month, it is sufficient to tie them up in packets, putting some dry moss between them, in order to prevent their being bruised, and to insert their bases in a ball of moist clay, covered with fresh moss, the whole tightly enveloped in a thin coating of straw. But if the cuttings have to be sent a great distance, so as to be months on the way, they should be inclosed in a box, in small parcels, all laid with their tops in the same direction, their thick ends covered with clay and fresh moss, the whole compactly fastened

with laths likewise coated with moss. If for a long sea-voyage, care should be taken to close the box, some holes being made in the top, to prevent the shoots becoming mouldy. This is excellent advice.

Dr. Lindley adds, that so long as it was believed that absolute wood was formed corporeally from above downwards, it was inferred that the lower parts of a plant must be gradually encased in solid matter derived from branches, and that, consequently, of necessity, the stock of a plant must be enveloped in layer above layer of the scion. It is needless to repeat the arguments employed in support of this view; they were cogent, and, for a long time, held to be irrefragable. The application of the theory to grafting, led, among other things, to the conclusion, that a scion would speedily form a sheath of wood over the stock, and thus secure itself forever. Once to form a good union, was therefore looked upon as sufficient security for the permanent life of the grafted plant. Cases, apparently at variance with the theory, occurred now and then, but plausible explanations of such instances were readily found.

It is, however, now certain, continues the Doctor, that although wood is formed by a descending process, yet that its descent is not in an organized state. Fluid matter, out of which it is produced, passes, indeed, from above downwards, but the formation itself is wholly local and superficial, and, consequently, there is no such thing as an encasement of the lower part of a tree by wood descending from above. That important fact having been once established, the union of a scion and its stock evidently becomes a case of mere adhesion, extremely powerful in some cases, feeble and readily destroyed in others. There are, therefore, two essentially different results obtained by grafting—the one permanent, the other transitory. The accompanying example affords a new demonstration that the union between a scion and its stock is no other than that now described.



About the beginning of September, 1853, Dr. Maclean, of Colchester, an ingenious experimentalist and good physiologist, grafted a young plant of the White Silesian Beet upon a root of Red Beet, and *vice versa*. At the time of the experiment, the plants were each about as thick as a straw. A complete junction was effected, and when, in 1854, the White Beet grafted on Red was taken out of the ground, its longitudinal section exhibited the appearance represented in the figure. There was a slight contraction at the line of junction; above the line of contraction, the plant was absolutely white, below it was absolutely red. Not a trace of blending of the two colors could be discovered. By similar experiments on other vegetables and plants, Dr. Maclean had so far assured himself of the perfect independence of scion and stock as to acquire the belief that neither the coloring nor any of the specific characters of the one or the other, would or could be altered by their union. The result of the trial wholly confirmed that view, and demonstrated that the White Beet adhered to the Red Beet by mere junction of cellular matter, that

of the scion and stock holding together in the first instance, and each afterwards producing its own coloring matter in its own new cells, as they formed superficially, the red cells adhering to the white cells while in the nascent state, but

retaining each the peculiarity belonging to it, without any interchange of contents through the sides of the cells in contact.

This is entirely consistent with all that has been discovered by the modern physiologists who have applied themselves to a study of the nature of the individual cells of which plants consist. They have clearly shown that each cell has its own inherent power of secretion, as, indeed, may be seen by any one who examines thin sections of variegated leaves, or other parts. It will then be found that some cells are filled with a red coloring matter, some with yellow, some with green. In other words, one cell has the power of secreting red matter, another yellow, and so on. The colors do not run together, but are contained each within the cell that produces it. Why this is so, no one knows; all that we are acquainted with is the fact; the peculiar cells are not affected by the one growing on the other. Red-forming cells produce their like, and yellow-forming theirs. Thus the limit between the scion and its stock is unmistakably traceable, and, notwithstanding the combination of the two sorts in one, each perseveringly retains that which is natural to it.

It hence becomes evident that no junction can be permanent unless the stock and scion have a great similarity, not only in every part of their structure, but also in constitution, and that the strictest consanguinity alone offers security that a grafted plant shall be as durable as each of the two individuals thus artificially joined is, when left on its own roots. A temporary union may indeed be effected, but it is soon dissolved, as we everywhere see, in collections where grafted varieties are brought together, instead of plants "on their own bottom." We have used D'Albert's and Dr. Lindley's own words above; they are convincing, and the intelligent fruit grower cannot fail to take advantage of them.

AMERICAN GRAPES, AND THE LONDON GARDENERS' CHRONICLE.

BY WILLIAM CHORLTON, NEW BRIGHTON, NEW YORK.

In looking over a late *London Gardeners' Chronicle*, I see that Dr. Lindley has again been showing the "black feather." The American native grape-vines have been tried in Southern Europe, and the *London Times*, in speaking of the discouraging prospects generally, states: "The American vines, which, up to a few days back, had been free from any bad signs, had suddenly manifested the blight to an extent which had destroyed the hopes entertained from the introduction of those descriptions." And the doctor adds: "We do not know what was expected from the introduction of American vines, if by that term is meant, as we believe to be the case, European vines cultivated in the United States, for the vine disease exists there as well as here, as we lately showed upon the authority of Mr. Chorlton. At all events, we know that the American vines were grafted on Portuguese stocks." Now, surely, he knows better than this, not only from the authority quoted, but from his own knowledge of the subject, and he must certainly be aware that no man of common sense would even think of sending the European varieties back again, if the intention was to repel the mildew, more particularly so, as the disease in question has been the only cause why we do not succeed, and never have succeeded satisfactorily, with them in out-door culture. It is a fact, that our natives have been sent there, and it now appears that they have not had a fair chance, for they "were grafted on Portuguese stocks," instead of being grown on their own roots. It so happens, that the constitutions of the European and American grape-vines are very different, as is proved by the former being always improved under

glass, excepting in those climates which have prolonged and steady heat, with the after part dry, and free from damp fogs or rain; while the latter are invariably enfeebled by the same method. The cellular formation and action are not the same, hence the disagreement; consequently, if uninterrupted vigor, which is most necessary in this case, is required, each class ought to be on its own roots, or grafted on to one of its own species. If the two are to be amalgamated, it must be by hybridizing the European with our natives, when the probability will be, a hardier habit in the future progeny. With the facts as they are before us, the experiment is only a retrograde movement that has been ignorantly attempted. It is not long since that we were accused of "confusion" as to a knowledge of the European grape mildew, but in the means of prevention, and likewise the cause, which are more important parts of the subject, I rather suspect that we are better posted-up than either Dr. Lindley or many of the Eastern cultivators. We well know that, were it not for the extreme saturation of the atmosphere with which we are so frequently troubled during midsummer, mildew would do little harm, and also, that if we can get an approach towards maturity previous to the time of attack, we are comparatively safe. This explains why the earliest varieties of the exotics succeed best here, and why it was, during the past summer, in many places, Black Hamburg and other sorts were so good in the open air.

Dr. Lindley infers that this destructive pest is on the decrease, notwithstanding the many statements to the contrary. Very probably it may be so, or is likely to so happen hereafter; for, from our experience in other epidemics of a similar character, and under the same circumstances, it will have its time, and finally die out, in those climates, at least, where it is only a casual visitor.

The doctor, in speaking of these *European Americanized* vines, speculates thus: "Even here the result was not quite so unsatisfactory, as would appear from the *Times*." And, further on, of the European kinds: "It has also been remarked, this year, that in the Douro wine districts, although the *Oidium* appeared in June, and apparently 'paralyzed the vines,' yet, after the fourth day, they recovered, and vegetation proceeded with renewed vigor, 'leaves and wood increasing in quantity and strength in proportion as the grapes withered and dropped off.'" In another place, mentioning a trial with cuttings, from English hothouses, that were grafted upon Portuguese roots, he says: "Until June" they "were green and beautiful. But what was very curious, wherever among them indications of fruit appeared, it was speedily stopped by the *Oidium*, which, however, did not extend to the vines."

"It is impossible not to regard these as favorable symptoms, indicating that the virulence of the vine disease is passing away even from the West of Europe."

May it prove so, but is it not very reasonable to suppose that the peculiar state of the weather during the last summer, has had something to do with all this? So far as I have been able to find out, there has been a great lack of meteorological observation, in this case, on the part of European physiologists, which is somewhat strange, at the present day, when it is so well known how much the different states of the atmosphere affect fungoid vegetation. There need be no more convincing proof of this than a knowledge of the fact that, during close and "muggy" weather, the disease is increased, while a dry and clear atmosphere arrests it. One would suppose, too, that more experience would have been gained with regard to specific or artificial remedies, if any such did exist, yet we find nearly the same paucity of information. Sulphur has been tried in a few cases, and, also, hydrosulphate of lime, but they seem to depend more upon the actual contact of the material than the fumes emanating from it, which, during increased heat from the sun, or otherwise, will impregnate the surrounding air to a considerable extent, and thus nullify the exact requirements of all such parasites as

we are at present discoursing on. Considering the cheapness of this article, there is no reason why it may not be more freely used, and a comparatively small portion is sufficient to cause a very perceptible smell when the thermometer rises to, or above 75°. When sulphur is used for these purposes, it ought to be distributed with an upward jerk, so that a portion may adhere to the under-side of the leaves, which will prevent the rains washing it off, and if the ground be left undisturbed beneath, what falls to the surface will continue to act for some time.

In conclusion, I would say, that although our native grapes are scarcely acknowledged, in their present state, in Europe, we must recollect that there has been very little attempt at improvement hitherto. They are nearly in the same condition, comparatively, that the austere Crab of by-gone days is to the present luscious Newtown Pippin, and now our cultivators and experimenters are alive to the subject, it is no stretch of the imagination to say, that future generations of seedlings will lead to improvement, the finale of which will be, grapes of equal quality to the exotics, and suitable for all purposes.

ON THE CULTURE OF LILIUM LANCIFOLIUM.

BY F. HARDWICH.

TOWARDS the end of November, 1854, I prepared a bed for planting the bulbs of this beautiful Lily; the bed was four feet wide and nine feet long, composed of common garden soil, well dug and broken up with a fork, and without any manure, which I believe to be rather disadvantageous in the culture of this plant. The bed was afterwards raked level, and the bulbs planted on the surface, spreading out the fibres every way, with a distance of fourteen inches between each; they were covered with a light mixture of fine, sifted mould and sand, to a depth of four inches from the crown of the bulbs, and the surface neatly raked. After the stems were quite dead, in the following autumn, I took off the surface compost, without disturbing the bulbs, and laid fresh sandy soil over them to the depth of four inches, and this year I have been favored with a splendid show of their lovely blossoms, and am decidedly of opinion that this plant succeeds better, and has a more vigorous growth, thus treated, than when kept in the greenhouse. It is a most ornamental bulb, the flowers possessing also an agreeable fragrance, and should be more extensively grown than it is, meriting a place in every flower garden. I have cultivated several other kinds of Japan Lilies out of doors with much success.—*London Florist.*

ON THE CULTURE OF SWEET-SCENTED VIOLETS.

BY JOHN HUNT.

It may be of use to your readers, to detail the method which I pursue in the treatment of Sweet-Scented Violets, especially as I have not seen a paper on the subject from any of your contributors. I consider the Neapolitan Violet to be the best sort in cultivation, but it unfortunately requires protection in winter. To treat them with advantage, about the end of April take the old roots and part them, plant them out in beds on a north or northeast border, there to remain till the end of September; then take them up, and pot them in thirty-two-sized pots, in a mixture of vegetable mould, road-scrappings, and loam; if not sufficiently gritty, add a little coarse river sand. Place a tile in the bottom of each pot, likewise a handful of potsherds, broken very small. Water them, and plunge them

in a frame in cinder ashes, elevating them to within a few inches of the glass; draw off the lights in fine, dry weather, and protect them from rain and damp; they will flower profusely the whole of the winter. They will also bloom in a greenhouse, provided they are placed in a dry, airy situation. This kind has a double flower, light blue, and is sweet-scented. The New Russian Violet is, without exception, the best *hardy sort* we have, as it blooms profusely the whole of the winter in the open ground, in any situation, which makes it very desirable to cultivate. Bedding them out every two years, about the end of April, in a dry soil, is quite sufficient; they require less room than many other kinds, as they make but few runners: a large, single, purple flower, very fragrant. The Banksian Violet has a sweet perfume, flowers single, purple, but not so profuse in blooming as the former. It requires to be planted on a warm border under a south wall, in March or April, and attended with water in dry weather; it will flower early in autumn. Several other varieties might be enumerated, but they are less worthy of notice.—*Cottage Gardener*.

DR. WARD ON PEAR CULTURE.



REPLY from Dr. Ward to the severe remark made in the Rochester Pomological Convention, has appeared in the *Country Gentleman*. Though rather late to help the prospects of his liberal challenge, we consider it due to the author to copy portions of it here:—

"Your report of the doings of the American Pomological Society at its late session at Rochester, includes this sentence:—

"Allusion was made to several recent articles from a correspondent in the *Horticulturist*, as tending to discourage the culture of the pear as a dwarf, and some gentlemen present who had visited the grounds of that correspondent, had found that 'he knew nothing of cultivating pears on quince stocks, according to modern treatment,' as exhibited by his distorted, badly pruned trees, twelve years old.'—*Country Gentleman*, Oct. 9.

"As allusion was here made to myself, your readers will, I trust, pardon me for presenting a few facts on the other side of the question. The trees above referred to comprise ten rows, with twenty-five in a row, and are of very uniform size, shape, and vigor; the varieties embraced are the Duchess, Vicars, Louise Bonne, and Doyenné. These rows are still entire, and each tree resembles its fellow as much as one Vicar or Duchess Pear resembles another. But they are not pyramids, for the best of all reasons, that I could not afford to grow them in the pyramidal form. The

only row that was originally made to assume that form, was altered to the half-standard form, on account of economy in culture. After a brief experience, I was satisfied that the keeping of the grounds worked and cleaned by hand labor, would cost more than I should ever realize from the sale of the fruit.

"The great problem I had attempted to solve in my present vocation, was to settle the question whether the cultivation of fruit, and especially of pears, could be made profitable. In doing this, I found it all-important to keep an eye to the expense demanded in the culture of the trees. To attempt to keep an orchard of some five acres in clean culture by any other than horse labor, would demand more of an income than I possessed; and to cultivate with a horse was utterly impracticable with any other form of the trees than I have given them, viz: that of the half-standard.

"Amateur cultivators who have only seen pears growing in the nicely dressed specimen rows of the nurseryman, or on pet dwarfs in a garden, will do well to remember, in visiting my grounds, that I have no garden—my fruit is in orchards.

"Had I been privileged to accompany the visitor over the orchards, he would have learned that the 'distorted trees' were the quince stocks that I had attempted to grow, and would not, and that they will soon be out of the way; trees, that with others unsatisfactory in growth, though not misshapen, have led me to say what I have in the articles alluded to, against the general introduction of the quince stock for the growth of the pear. Had the charge been made that the grounds bore evidence of neglect, and portions were overgrown with weeds, I should have been silent, for the greater part of the past summer I have been an invalid and confined to the house, and as I have no gardener, but depend entirely upon the most unintelligent, because the cheapest laborers, being myself the superintendent and director, my entire farm soon gave evidence that the proprietor was 'not at home.'

"My oldest trees on quince stocks were planted, as stated in the articles in the *Horticulturist*, in 1849 and 1851, the first planted being now seven years old—the speaker at Rochester says twelve—but as that is about as near the truth as a 'visitor,' troubled at articles that had disparaged the dwarf-trees, could possibly approach—we proceed to remark, that the object of all fruit-tree culture is the production of fine fruit. For a number of years past, I have been in the habit of exhibiting the fruit grown on these trees, and others contiguous to them, at different State and city fairs, and never have I made an exhibition of pears that I have not had a premium awarded them. This year the fruit that was growing when certain gentlemen visited my grounds, was exhibited at the Brooklyn Horticultural Fair, and, by universal judgment, was declared the finest in the exhibition; the second premium, however, was awarded them, as there were less than forty varieties, the first being awarded to a collection of a hundred and fifty varieties, under a call for the greatest and best display. On one of these trees there was also grown a pear that attained to the size of seventeen and three-fourths inches in dimensions, weighing thirty-five and a half ounces. This mammoth pear is now in the hands of the Editor of the *Horticulturist*, and has been modelled by him. This season's crop of pears has been taken from the trees, and either disposed of, or boxed for family use; the only variety remaining on the trees is the Vicar of Winkfield.

"Now, if 'the visitor,' or any other fruit grower, will accept the following challenge, the exhibition may satisfy some at least, that if 'the correspondent in the *Horticulturist* does not know how to grow quince stocks according to modern treatment,' he knows how to grow pears. I will exhibit in New York City, at any specified time before the first of December, one or five bushels of that variety of pear, in competition with an equal quantity, the growth of the exhibitor—the owner of the best grown, fairest, and largest fruit to be the owner of both. Mr. Charles Downing to associate with himself any two fruit growers (not nurserymen), and be the judges of the fruit.

I. M. WARD, Newark, N. J."

EDITORS TABLE.

TORREYA TAXIFOLIA.*—This evergreen has been pronounced among the most satisfactory of the rarer sorts. It stood, at Wedenethe, last winter uninjured, except that the leader was a little whitened; the specimen there is now twelve feet high. It resembles the yew, and comes from Florida, where it attains the height of from twenty to forty feet, with numerous spreading branches, the appearance not unlike the hemlock; the leaves are broader than the yew, and marked with two longitudinal lines. The ripe fruit, or, rather, seed, is as large as a nutmeg, but has no fleshy cup as in the yew, but the external coat of the seed itself is leathery, and covers the whole, leaving a minute perforation at the summit.

It is found on the calcareous hills of the Apalache River as well as the Aspalaga, and south of Suanna. The tree is still scarce in our nurseries, but deserves a more extensive cultivation than it has yet received. It is surprising to find how slowly some of our valuable California and Florida trees are in being attended to. There could be little difficulty in procuring the seed.

It is a *Torreya* that has been said to be a nutmeg-tree, by the wise men emigrated to California.

ACORN.—A lady has kindly sent us a most remarkable acorn from the Plains of Troy, awakening some classical allusions, but we fail to find any description in the books. She calls it the *Valonia Oak*.

PARKS.—We are continually hearing from abroad of gifts of land for parks, by liberal individuals, as perpetual places of enjoyment for pent-up citizens. A Mr. Adderley has just given ten acres forever to the working people of Birmingham; and yet our Philadelphia Legislators have possessed, for twenty years, one of the finest sites for a park, and, instead of improving it, have actually allowed a miserable tenant to despoil it annually of its trees and rocks, and disfigure it in every way. This is one of the most extraordinary instances of imperfect legislation on record. A few gentlemen have had influence enough to get Hunting Park Course improved, and an enthusiastic writer, who well deserves to be heard, has issued at his own expense a pamphlet, deprecating the neglect of Pratt's Garden, without effect. Citizens of Philadelphia! rise up in your might, and displace from office every man who acts so contrarily to the dictates of humanity and civilization!

Since the above was written, the City Councils, on the motion of that excellent member, Theodore Cuyler, Esq., have taken measures to displace the present tenant at Lemon Hill, and probably something may yet be done. We ask of members of the Councils a little consideration on the subject. Those who vote against improvement may depend upon the frowns of their fellow-citizens.

NEW GRAPE "CANADIAN CHIEF."—The handsomest and largest bunch of grapes grown in the open air that we have seen, has been sent us by Mr. G. W. Fearman, of Hamilton, Canada West. It is a seedling white grape, somewhat resembling the Chasselas, and quite good

* See Frontispiece.

enough for the table, for which it will be a fine ornament. It is a hybridized fruit. From the somewhat immature state of the seed, we should judge that the grapes had been pulled prematurely, and that a greater development of the saccharine principle would have resulted from its longer continuance on the vine.

It was grown, in Hamilton, by the Rev. James Brennan, and is quite hardy, even in Canada. The bunches weighed from sixteen to twenty-four ounces; the vine is a most prolific bearer, producing and ripening this year, cold and backward as it has been, one hundred and thirty-four clusters, a great many of them weighing a pound and a pound and six ounces. It is a decided acquisition. Mr. Fearman is the agent for its sale, which, we predict, will be equal to his ability to supply.

With the grape came a photograph, exhibiting the vine covered with its tempting bunches.

We seem to be entering upon an era of new grapes; hybridizing has just begun to exhibit its results, and we may well congratulate the successful experimenters, but still more the benefited public. A good gardener said to us, lately: "I consider the introduction of a new and valuable flower to confer a greater honor than being elected President of the United States." We add, that the originating an entirely new and valuable fruit—a grape like this, or the "Rebecca"—confers more real honor than to be the factitious Emperor of France.

ERRATA.—On page 509 there is an error of the printer, regarding the Church Pear; it should be read, "ripens slowly from the 15th of September to the first week in October." Also, the *figure* of No. 1 should have been called "Huntingdon," and No. 2 is the "Church" Pear, which were reversed. At page 533, we are made to call an *Abies* a Larch, for the want of the word *and* after "*Abies Kämpferi*."

GOSSIP.—A correspondent lately compared the usual habitual mode of trimming apple-orchards by the ignorant, who have learned from their fathers that spring was the time to do it, to the Connecticut deacon's ideas of family government. He read in his Bible, "correct thy son betimes," which he construed to mean by times, or stated periods. Accordingly, he was accustomed to call his boys before him at regular intervals, and give them the rod, however exemplary their conduct might have been; thus fulfilling, as he thought, a Scriptural injunction.—Perthes, the celebrated German bookseller, established himself in that business not merely for the purpose of making money, but with a deep feeling of the important part which a bookseller of the present day may perform in the intellectual and moral elevation of the community to which he belonged. He had observed that where a bookseller possessed an educated taste, works of a high class were in demand, and, in the reverse case, a licentious and worthless literature had a wide circulation. This is true in all countries, and is applicable to newspaper publishing as well as books. The bookseller here, generally boasts that he has no literary taste whatever.—The resident medical officer of St. Thomas's Hospital, London, asserts that, in Paris, last year, he watched the growth of grass seed sown upon earth prepared with the "town guano" for a lawn, at the Duchess d'Alba's, and on the eighth day it was mown. At Milan, where this guano is extensively adopted, and the town produce for years has been converted to its legitimate uses, the land, he says, yields eight crops of grass a year. He ought to have added that its use is in conjunction with systematized irrigation. [See the *Leader* of August 30.]—The name of the town in England, *Saffron-Walden*, has puzzled us a long time. The latest Floricultural Cabinet says it originated from saffron being first planted at Walden, in Essex, where it increased so rapidly as to confer a name on the place. It grows there plentifully; the stigmas of this plant are cut away and dried, forming the article so much employed as a dye.—An experiment has been tried, of considerable interest, to prove what effect the different kinds of glass had on the plants grown below them. Five years ago, a four-light frame was devoted

to the purpose, having one light glazed with rough plate, one with corrugated, one British sheet, and one with crown glass. During the five years, a variety of plants have been grown in this frame, including strawberries; and no perceptible difference could ever be detected, either in the growth of the plants, the color of the flowers, or flavor of the strawberries. We may therefore infer that, as regards cultivation, no great amount of difference exists between the descriptions of glass mentioned; while, to suit particular purposes, one sort may be substituted for another, without causing any detriment to the vegetation they cover.—In Gloxinias, a great improvement has taken place of late, especially in the upright-growing kinds, of which Fifeana is the type; they now have varieties with a pink ring round the inside of the throat; white, with a blue belt; lilac, with a white tube, and a dark violet purple, &c.—A real acquisition to the garden is the *Clematis langrinosa pallida*, with great, round flowers, quite eight inches in diameter, pale blue in color, and full and broad in the petal. It is quite hardy.—Save the haulm of your asparagus in a dry loft, as a shading next season for young-planted celery in the trench. Nothing can equal it for the purpose.—Mr. Rivers brought to the London Pomological Society, lately, a bunch of an early and nearly hardy black French grape, the Muscat de Sarbelle, very black in color, of the Frontignan flavor and habit. Also a dish of his plum, Early Prolific, No. 2. This is well known as a useful and very productive variety. Mr. Rivers mentioned that it is loaded with fruit this year, but is the only one producing a crop out of about three hundred varieties in his nursery. Mr. Underhill brought specimens of his Sir Harry Strawberry in fine condition; the berries were large, firm, and well colored, and the flavor of Hautbois. It was pronounced a first-rate fruit. A two year old plant was produced with its fifth crop of fruit, ripe and ripening; it had been forced last year, fruited again early in autumn, and afterwards prepared for early forcing; it produced its first crop this year in January, and being planted out in the usual way bore its second crop in June, and again as exhibited. These matters were mentioned to draw attention to the prolific tendency it displayed, and to suggest the desirability of endeavoring to originate and perpetuate a race of strawberries having this desirable property in a greater degree than those we at present possess. We have a suspicion, from inspection of some fruit here, that it will not prove as large as in England.—The Standhouder Cauliflower is said to be much superior to the Walcheren for a summer crop and autumn use.—Straw for covering glass structures has proved so efficient, probably from its being hollow, and confining in its interior a quantity of air; a slow conductor of heat, it seems desirable that it should be manufactured so as to preserve, in a great measure, its tubular form, and have a neat appearance.—A tree onion is now cultivated, that is a curious freak of nature. Instead of producing seeds, there is, on the top of the stem, a bunch of small onions, which are excellent for pickling.—Dancer's Prolific White Gooseberry was exhibited lately, in pots, in London, taken from an orchard house, in order to prove that, contrary to the opinion of many, gooseberries will set and ripen under glass. At the same time was shown a collection of beans, among which Mackie's Monarch, *alias* Songster's Wonderful, elicited much remark from the length of the pods, which were very plentiful on the stalk, and each pod was nine and ten inches in length, and contained five beans. Marshall's Dwarf Prolific was also much admired.—Dr. Lindsay has published a popular history of British lichens, from which we make the following extract: "When we consider that many species have a texture which, by readily imbibing and eagerly retaining moisture, renders them, in a sense, independent of all climatal changes, enabling them equally to brave polar cold and tropical heat; many not only cling with such tenacity as to be inseparable from, but even corrode or disintegrate the hardest and barest rocks, even pure quartz; the most ample provision has been made by the great Author of all for their reproduction or multiplication, in spite of the most adverse external circumstances, and under conditions fatal to all higher vegetation, both by the multiplicity and

abundance of their reproductive cells—which sometimes constitute almost the entire bulk of the plant—the extremely minute size and delicate nature of these cells, by virtue whereof they are disseminated by every shower or zephyr, and the readiness with which these germinate; and that, throughout the family, both in structure and products, there are many analogies which bind them closely to the Phanerogamia, we cannot fail to increase our surprise that a curiosity has not been sooner awakened to become familiar with the natural history of plants which strew the path of man wherever he roams over the wide world—which constitute the most universally diffused type of terrestrial vegetation.”—*Twelve hundred guineas*, or six thousand dollars, was lately paid by Louis Napoleon for an English bull; but he gets his money cheap.—Late experiments of mixing Mangel Wurzel with flour, to make bread and pastry, have demonstrated a saving in the price of from thirty-five to fifty per cent. Parsnips, carrots, and other roots, are also said to be applicable.—A writer, in London, says: “In my opinion, Prince Lear is the best and most distinct hybrid perpetual rose since the Giant, beautiful and erect in habit, and of very fine foliage. A good-shaped yellow or blue hybrid perpetual, are the two colors in which there is a good opening for hybridizers.—As an argument for steam-engines for farm-work, mowing-machines, &c., a correspondent says: “A machine, by being composed of inanimate matter destitute of feeling and unsusceptible of fatigue, proceeds unswervingly in its assigned duty, and may be forced to accomplish tasks which it would be both inhuman and impolitic to demand from living creatures, and yet many human beings are employed as the moving force of very ill-constructed machines intended to lessen and aid human labor. We are told, by those who have studied the subject, that the muscular energy of men forms the most insufficient or the weakest of all the prime moving forces. Human labor is very limited in its compass, and is the least to be depended on for regularity. The power exerted by one man is comparatively small, and it is both inconvenient and expensive to cause a large number of individuals to unite their powers in a continued or concerted effort.”—There are few good, *hardy Evergreens* that can stand sharp east winds in spring, not even the common Laurel. There are few better than the varieties of Hollies, Tree-Box, common Arbor Vitæ, and Evergreen Privets.—Fowls, known in Normandy by the name of Crève Cœurs, are becoming great favorites abroad. They have more flesh on the breast than any other, except Bantams; they fatten externally, with a remarkable absence of offal; their eggs are remarkably large; the hens are low on the legs, with large, fleshy thighs, wings large, and body square. They walk slowly, scratch but little, and do not fly; plumage black, or black and white variegated; they carry on their heads a large tuft, and a small, upright, two-horned comb, whilst a large cravat of feathers under the neck gives them a matronly air.—Farm-yard manure is treated, by Dr. Voelcker, Professor of Chemistry in the Royal Agricultural College at Cirencester, in a way that will surprise some farmers. For example: The liquid drainage of dung-heaps, he says, is more valuable than the urine of animals, because it contains phosphate of lime, which is scarcely to be found in the other. That no loss arises from spreading manure on the surface of a field; on the contrary, the fermentation is stopped, and the escape of volatile matters thereby ceases; and if it be left to lie till the rain has washed it in, is far more beneficial than burying it at once. And, “in the case of clay soils,” he adds: “I have no hesitation to say the manure may be spread even six months before it is ploughed in, without losing any appreciable quantity of manuring matters.” What is the true theory?—The Legislature of Victoria, Australia, have passed a law against thistles! Farmers and others whose lands are overrun with the prickly intruders, are to be officially warned to destroy them, under penalty of a fine of from twenty to eighty dollars; or the authorities may cause the work to be done, and charge the cost to the offender. How would such a law be relished in our *free country*?—The School Commissioners of Ireland have been considering the same subject, and approve a suggestion that the children of the

national schools "should be instructed by the several teachers as to the necessity of destroying all weeds found on the farms of their parents, or on the highways adjacent thereto."—The British Association has granted one hundred and twenty-five dollars for further examination of the natural history of the ocean by dredging; and fifty dollars for promoting the multiplication of salmon, particularly in the Tay.—Happy the mortals whose building is restricted to castles in the air, for they know not the bother, when once the bricklayers have got into the house, of getting them out again!

EMERSON'S ENGLISH TRAVELS has entertained us very much, and we venture to make a few extracts below, the only ones, indeed, adapted to this journal:—

"The native cattle are extinct, but the island is full of artificial breeds. The agriculturist, Bakewell, created sheep, and cows, and horses, to order, and breeds in which everything was omitted but what is economical. The cow is sacrificed to her bag, the ox to his surloin. Stall-feeding makes sperm-mills of the cattle, and converts the stable to a chemical factory. The rivers, lakes, and ponds, too much fished, or obstructed by factories, are artificially filled with the eggs of salmon, turbot, and herring.

"Whatever is excellent and beautiful in civil, rural, or ecclesiastical architecture; in fountain, garden, or grounds; the English noble crosses sea and land to see and to copy at home. The taste and science of thirty peaceful generations; the gardens which Evelyn planted; the temples and pleasure-houses which Inigo Jones and Christopher Wren built; the wood that Gibbons carved; the taste of foreign and domestic artists, Shenstone, Pope, Brown, London, Paxton, are in the vast auction, and the hereditary principle heaps on the owner of to-day the benefit of ages of owners. The present possessors are to the full as absolute as any of their fathers, in choosing and procuring what they like. This comfort and splendor, the breadth of lake and mountain, tillage, pasture, and park, sumptuous castle, and modern villa—all consist with perfect order. They have no revolutions; no horse-guards dictating to the crown; no Parisian *poissardes* and barricades; no mob; but drowsy habitude, daily dress-dinners, wine, and ale, and beer, and gin, and sleep. * * *

"An Englishman hears that the Queen Dowager wishes to establish some claim to put her park paling a rod forward into his grounds, so as to get a coachway, and save her a mile to the avenue. Instantly he transforms his paling into stone masonry, solid as the walls of Cumæ, and all Europe cannot prevail on him to sell or compound for an inch of the land. They delight in a freak as the proof of their sovereign freedom. Sir Edward Boynton, at Spic Park, at Cadenham, on a precipice of incomparable prospect, built a house like a long barn, which had not a window on the prospect side. Strawberry Hill of Horace Walpole, Fonthill Abbey of Mr. Beckford, were freaks; and Newstead Abbey became one in the hands of Lord Byron. * * *

"On general grounds, whatever tends to form manners, or to finish men, has a great value. Every one who has tasted the delight of friendship, will respect every social guard which our manners can establish, tending to secure from the intrusion of frivolous and distasteful people. The jealousy of every class to guard itself, is a testimony to the reality they have found in life. When a man once knows that he has done justice to himself, let him dismiss all terrors of aristocracy as superstitions, so far as he is concerned. He who keeps the door of a mine, whether of cobalt, or mercury, or nickel, or plumbago, securely knows that the world cannot do without him. Everybody who is real, is open and ready for that which is also real."

Descriptions of places are rare, but we like the following so much that we must make room for it:—

"We came to Wilton and to Wilton Hall—the renowned seat of the Earls of Pembroke, a house known to Shakespeare and Massinger, the frequent home of Sir Philip Sidney, where he wrote the *Arcadia*; where he conversed with Lord Brooke, a man of deep thought, and a poet, who caused to be engraved on his tombstone, 'Here lies Fulke Greville Lord Brooke, the friend of Sir Philip Sidney.' It is now the property of the Earl of Pembroke, and the residence of his brother, Sidney Herbert, Esq., and is esteemed a noble specimen of the English manor-hall. My friend had a letter from Mr. Herbert to his housekeeper, and the house was shown. The state drawing-room is a double cube, thirty feet high by thirty feet wide, by sixty feet long: the adjoining room is a single cube, of thirty feet every way. Although these apartments and the long library were full of good family portraits, Vandyke's and others; and though there were some good pictures, and a quadrangle cloister full of

antique and modern statuary—to which C., catalogue in hand, did all too much justice—yet the eye was still drawn to the windows, to a magnificent lawn, on which grew the finest cedars in England. I had not seen more charming grounds. We went out, and walked over the estate. We crossed a bridge, built by Inigo Jones, over a stream of which the gardener did not know the name (*Qu. Alph?*); watched the deer; climbed to the lonely sculptured summer-house, on a hill backed by a wood; came down into the Italian garden, and into a French pavilion, garnished with French busts; and so, again, to the house, where we found a table laid for us with bread, meats, peaches, grapes, and wine."

That little table of meats, fruit, and wine, is as rare as it is capital, and might safely be imitated, sometimes, in America.

THE CONTEST.—We have passed through a contest for power unequalled for its virulence; but it has happily *passed*—the voice of nature may again be heard amid the beauties of the garden and the field; the wily politician who has won may, if he pleases, accept the cares of office, and the disappointed return to his labors; if of the farm and the greenhouse, he may yet be happy.

"Ah! who, when such life's momentary dream,
Would mix in hireling Senates, strenuous there
To crush the venal Hydra, whose fell crests
Rise with recruited venom from the wound!
Who, for so vain a conflict, would forego
Thy sylvan haunts, celestial solitude!
Where self-improvement, crowned with self-content,
Await to bless thy votary!"

ORCHARD HOUSES.—Experienced fruit growers recommend that plants in orchard houses should not be too frequently repotted; once in three or four years is said to be sufficient. Another writer says of his grapes, in an orchard house: "I have to-day gathered a bunch of grapes from one of my bush vines in my orchard house, which weighs one and a half pounds, less half an ounce; there are still two bunches on the vine, each of which weighs upwards of one pound; the berries are very large. This vine is three years old, and is in an eleven-inch pot; its roots have struck through into the border, which is deep and rich. Several other vines in the same house have borne excellent crops and produced large bunches."

WASHING CLOTHES.—Whatever housekeepers may please to say or believe on the subject, there can be no doubt that one-half, at least, of the cost of clothing, in America, goes in the washing—the rubbing poor stuff on hard boards. Any good modification of this absurd system we are ready to patronize. It is rather singular that we should first hear of the following improvement from an *English Mechanics' Magazine*:—

"*The American Floating Ball Washing Machine.*—This machine, which attracted a good deal of deserved attention at the Paris Exhibition, where very many of its counterparts were purchased by the English, is now being manufactured to a great extent in this country, and a depot has been opened, Moore's, 133, in High Holborn, for the purpose of informing the public as to the nature of its operations. We have closely inspected this machine, and seen it at work. A number of wooden balls—more or less, according to the trough in which the clothes are to be washed—are set in motion by a handle worked by a lever, and which agitates an apparatus on which the linen is placed. This movement causes the balls to rub against each other, but only with sufficient percussion to pound the material to be cleansed, and by their eccentric action, imitate to a nicety all the routine of a washerwoman's duties. In this way, clothes are washed far cleaner than by the ordinary method, and with singular rapidity. The threefold operations of pounding, rubbing, and squeezing, are done at the same time; and, as the floating balls offer only a limited resistance to each other, the finest fabrics are free from that injury which is consequent upon the ordinary course of proceeding. The wear is, moreover, much less; and not even a button has, it is said, been known to be torn off by the thousands of the machines now in use throughout Europe, and America.

The consumption of soap is smaller, and no necessity for boiling is necessary, excepting in the case of extreme foulness. The hands of the operator, which may be a child, are never immersed in the water, and, consequently, there is no fear of that blistering, chapping, and bleeding of the fingers attendant upon the poor washerwoman's pursuits. It seems to us an excellent labor-saving machine, and one the permanent character of which is alone to be estimated by the wear of the wood with which it is made."—*Mechanics' Magazine*.

HORACE WALPOLE ON GARDENS.—DEAR SIR: I have just been reading over Horace Walpole's *History of Taste in Modern Gardening*, an essay written about one hundred years ago; I think it might be worthy of reprinting; it would make about four articles, of about three pages each.

It is rather quaint and amusing. Speaking of the Garden of Eden, he says, "it contained two trees of which not a sucker or slip remains."

"A cottage and a slip of ground for a cabbage and gooseberry bush, were, in all probability, the earliest seats and gardens; a well and bucket succeeded to the Pison and Euphrates." "As late as Homer's age, an inclosure of four acres, comprehending orchard, vineyard, and kitchen-garden, was a stretch of luxury the world at that time had never beheld." Of a later period, he says: "Trees were headed, and their sides pared away; many groves seem green chests set upon poles." "'Leisure,' as Milton expressed it, 'in trim gardens took his pleasure.' In the garden of Marshal de Biron, at Paris, consisting of fourteen acres, every walk is buttoned on each side by lines of flower-pots, which succeed in their seasons. When I saw it, there were nine thousand pots of Asters."

Speaking of terraced gardens, with long flights of steps, he remarks: "Fortunately, Kent and others were not quite so timid, or we might still be going up and down stairs in the open air."

"But the ornament whose merit soonest fades, is the hermitage or scene adapted to contemplation. It is almost comic to set aside a quarter of one's garden to be melancholy in."

"Borromini twisted and curled architecture as if it was subject to the change of fashions like a head of hair."

Such are some of his remarks. He traces the rise and progress of gardening very judiciously and concisely.

Yours, W. S.

THE GUANO ISLAND.—An officer of the U. S. ship *Independence*, gives us a poor account of the Guano Island they have been in search of. It proved of no value whatever, had no landing-place, is in a rainy district, and the waves wash it, in high winds! The information which led to the search was an imposition, and its author deserves punishment; he appears to have done it wilfully and knowingly, in order to get up a Guano Company.

A SUBSCRIBER asks what he shall do with an old quarry which is in view from his house, and is very unpicturesque? Follow nature. When the rawness is softened, and in part concealed and ornamented by the effects of time and the progress of vegetation, deformity, by this usual process, is converted into picturesqueness. Hasten the process by the judicious planting of trees, shrubs, and creeping and climbing plants, and a delightfully retired wilderness of sweets may be created immediately. Mosses piled into shady, damp places, ivy made to cling to the sides, possibly a spring in the centre, with aquatic plants in perfection, will often add greatly to the wild charms of even an old gravel pit. To fill up such places is expensive; to dress and adorn them costs little trouble or money, and they may be often masked by plantations, and so united with the general scenery at a distance, as to produce great novelty and variety when approached.

GRAPERY.—AN OLD GRAVEL PIT may be usefully treated in another mode than the one last stated. An example is found at the nursery of Mr. Rivers, at Sawbridgeworth, where the soil is a loam, varying from a strong to a sandy nature, according to the character of the subsoil, which is in places clay, alternating with beds of sand. These sand-beds have been quarried in places, and Mr. Rivers has taken advantage of these pits, and has converted them into a primitive kind of graperies; to effect this, vines have been planted on one side the margin of the pit, in the natural soil of the nursery; a rough kind of framework is placed over the pit, on which are fixed glazed sashes, covering it over, and resting on the opposite side. The vines are brought in under the glass, and fruit freely—not large, of course, but well-colored. Some of these sand-pits are ten or twelve yards long or more, three or four yards wide, and seven or eight feet deep. Nothing has been done to the interior, except making a rough path along the middle, ending with a seat at the further end. This is turning old quarries to a useful purpose. Near one of these graperies, a larger sand-hollow has been converted into a place for plunging vines in pots intended for planting out; the plants are five or six feet high, and, at a distance, reminded one of the sloping banks of vines on the continent; but, on a closer inspection, they were of course minus the fruit.

GRAPES.—Could we venture to mention the various sources from which the noblest grapes from private greenhouses have been forwarded during a protracted confinement, we should employ much space. We must record, however, two magnificent baskets from Staten Island, which would do credit to "a king's gardener." To G. R. S., too, whose graperies is a perfect thing, we are thrice in debt.

AMERICAN POMOLOGICAL SOCIETY.—In our last number, we gave some interesting proceedings of this Society—all we received in time. The *Rural New Yorker* continues the report, from which we make the following abstract. When the *Transactions* appear, we shall give a résumé of the whole:—

"*Peaches*: Recommended for 'general cultivation:' Crawford's Early, Oldmixon Clingstone.

"*Peaches*: Recommended as 'promising well:' Susquehannah, Gorgas, Hative de Ferriers, Hill's Chill, Madeleine de Courson.

"*Cherries*: Downton was removed from the list for general cultivation. Recommended for 'special cultivation:' Napoleon Bigarreau. Recommended for 'general cultivation:' Belle d'Orleans, Coe's Transparent, Early Purple Guigne, Governor Wood, Reine Hortense, Rockport Bigarreau.

"*Plums*: Frost Gage was removed from the list for 'general cultivation:' Monroe Egg was established as 'Monroe.' Recommended for 'general cultivation:' Lombard. Recommended as 'promising well:' White Dawson, Fellemburg, General Hand, Bradshaw, Duane's Purple, German Prune, and Pond's Seedling.

"*Raspberries*: Recommended for 'general cultivation:' French. Recommended as 'promising well:' Cope, Thunderer, American Red, or Red Prolifio, Ohio Everbearing, Catawissa. The latter all seemed to agree was an astonishing bearer, and the President liked its flavor.

"*Blackberries*: The Improved High Bush was recommended for 'general cultivation,' as *Dorchester*. A discussion on the Lawton question ended by laying the subject on the table.

"*Strawberries*: The following sorts were recommended as 'promising well:' McAvoy's Superior, Hooker, Scarlet Magnate, Trolloppe's Victoria, Genesee, Le Baron, Longworth's Prolifio."

A vote of thanks to the President was passed by acclamation, and the Society adjourned, to meet in New York, in 1858, at such time and place as the President might appoint.

There seems to have been some confusion as to giving out the reports. Would it not be well for the Society to retain a reporter, and distribute the proceedings to publications interested in disseminating knowledge on the subject, charging each with its share of the expense. The information would thus be earlier disseminated. We shall look with interest for the official pamphlet of proceedings; this is, no doubt, preparing for distribution at a day sufficiently early for planters.

ILLINOIS HORTICULTURAL SOCIETY.—A meeting is to take place, in the city of Decatur, on Wednesday, the 17th of December, at ten o'clock, to frame a Constitution and By-Laws for a State Horticultural Society in Illinois. The friends of the measure are anticipating a large and enthusiastic meeting at Decatur, and it is hoped that every county in Illinois will be well represented. The convention will probably sit two days in the transaction of its business, and all who desire the development of this great branch of our State products, are cordially invited to be present, and to bring with them the best specimens of horticultural objects, that the gathering may be the more interesting.

R. S. HULL,

Cor. Sec. Alton Horticultural Society.

ANSWERS TO CORRESPONDENTS.—(S. W. JOHNSTON.) The *Magnolia Michauxii* of some catalogues is the *Magnolia Macrophylla*, certainly one of the most beautiful of ornamental trees. It was named after the elder Michaux, and we have always regretted that the modesty of his son concluded to continue the designation given by the father, and which it will now retain. Notwithstanding its great merit and oriental character of leaf, it continues to be rare, as do *M. cordata* and *M. auriculata*, two of our best ornamental trees, from the difficulty of procuring seeds.

(SUBSCRIBER, Leesburg, Va.) The best work on the kitchen garden ever printed in America, is McMahon's, of which a new edition appeared lately in Philadelphia, from Lippincott, who rarely advertises.

DEAR SIR: I have a number of oak-trees, valuable from their size and position, suffering from decay in the trunk near the ground. Can you tell me what will arrest this? (1.) Will you also name some reliable work on the flower gardens, suitable for a beginner, containing plain, practical information? (2) and oblige
Yours, respectfully, A SUBSCRIBER.

Balt. County, Md.

(1.) Clean out all the dead wood carefully, and fill the cavities with moistened Roman cement; this sets at once, and will keep out the malign influence of moisture, the great destroyer. Trees thus treated will often survive a long time.

(2.) Mrs. Loudon's *Treatise*, edited by Downing, we have found a very valuable book of reference. Breck's, published in Boston, is also very useful.

"THE PROPER EXPRESSION OF RURAL CHEMISTRY," shall have a place in our next volume.

THE PLAN OF A HOUSE, from Michigan, shall receive early attention, if possible.

MANY correspondents whom we would fain have a chat with, must wait on the *Index* till next month.

CUPHEA EMINENS.—Mr. G. C. Thorburn has exhibited to us this new Cuphea, which promises to be useful as a bedding-out plant. The flowers are twice as long as our old favorite, and one-half is yellow. Mr. T. will introduce it next spring.

"THE CONCORD GRAPE," says the *American Agriculturist*, "which caused so much discussion at its introduction some four years ago, is settling down to a place among standard fruits, in northern gardens. No grape was ever introduced with a louder flourish of trumpets, and few were ever assailed with severer criticism. It is gradually winning favor, and appears destined to become popular, where the Isabella will not ripen. A fruit grower in Connecticut recently informed us, that it has done remarkably well with him, ripened this year by the 1st of September, while the Diana did not mature until the 16th, and the Isabella not until the last of the month. This is valuable testimony to its early maturity. The price has fallen from five dollars to one, and is now within the reach of all who desire it. We hear of gentlemen who are making large plantations of it."

CARPENTER'S WHITE PEACH.—The same journal remarks: "This splendid peach has, we are glad to learn, been placed in the hands of nurserymen for propagation and sale. An intelligent friend says of it: 'At all the shows where it has been exhibited, it has received the prize as a superior seedling peach. It has had a four years' trial, and has sustained its character fully. It is not only one of the best, but one of the largest peaches ever raised. The flesh is uniformly white to the pit. It ripens about the second week in October. Having had opportunities of testing it for three years past, I do not hesitate to say that I consider it a very great acquisition.'"

REMONTANT ROSES.—A French cultivator at Lyons, France, commends to our notice the following new remontant roses: Duc de Malakoff and Pauliska, as of the finest description.

DIANA GRAPE AND ORANGE RASPBERRY.—We have nearly ready for publication, engravings of these two fruits for the ensuing volume.

THE SOIL.—An English paper says: "The whole process of cultivating the soil, in England, is undergoing such progressive changes by the introduction of artificial manure, the use of improved implements, and the increasing substitution of steam for manual labor, as to amount to a revolution."

A LARGE FLOCK.—Mr. McConnell, of Sangamon County, Illinois, has the largest flock of sheep in the United States. It numbers 21,000, and all of the choicest merinoes.

PEARS.—We have on our table some fine pears from our neighbor, P. R. Freas, Esq., Editor of the *Germantown Telegraph*, which mark his very successful culture. The *Beurré Sieulle*, a fruit little spoken of at our pomological conventions, is one of the best, a thrifty grower, and produces abundantly—generally more than should be permitted to remain on. A single tree yielded a full bushel; it is not an early bearer, but, in Mr. Freas's garden, since it commenced, it has invariably borne a full crop every year. It is a very handsome pear, continuing yellow a considerable time before it should be eaten, and it should never be eaten till quite soft. *Fruit*, of medium size, roundish, flattened. *Skin*, pale yellow, with a little red on the sunny side. *Stalk*, an inch and a quarter long, set in a cavity. *Calyx*, closed, basin scarcely at all sunken. *Flesh*, buttery, melting, rich, and very good. Ripe in October.

Mr. Freas's Columbia, Vicar of Winkfield, and Raster Beurré, are highly creditable specimens.

GAS LIME.—The *Mark Lane Express* says, with regard to this material, that "the gas lime must not be applied, in a fresh state, to any crop, but should be mixed with two or three times its weight of earthy or vegetable mould, and then turned over repeatedly for at least twelve months. It will then be fit for applying to the land. It will be most appropriate for clover or grass lands. From fifty to sixty bushels of the gas lime, prepared as before mentioned, may be used per acre in the autumn or spring."

THE HONEY KING.—The *Agriculturist* calls Mr. M. Quinby, of St. Johnsville, Montgomery County, N. Y., the Honey King, and assures us that, this year, he has sold 22,000 pounds of honey, all raised by himself and his immediate neighbors, with only common hives, small, square, cheaply constructed boxes, with glass sides, which are set upon the common hive. The quality is superior, and it commands a very high price, viz: twenty-five cents the pound, including the weight of the boxes.

THE CURCULIO.—By Nicholas Longworth, Cincinnati, Ohio :—

CINCINNATI, Nov. 5, 1856.

EDITOR OF HORTICULTURIST: In your paper of this month, Mr. Gardener writes that he saved his plums from the ravages of the Curculio, by piling small stones to the height of eighteen inches round the trees. I will vouch that a pavement of brick or stone to the extent of the branches, would secure the fruit as long as the trees bear fruit. In twenty-seven years, I have lost no plums by the Curculio round my house. I have a brick pavement to the extent of all the limbs. In my garden adjoining, I have not had a tree to perfect a single fruit, except two years. I leave a circle of about three feet diameter round each tree, to let in water, and cover the earth with small stones or coarse gravel. The Curculio is a winged insect, and flies from garden to garden. The reason why they do not deposit eggs in plums where there are pavements, is this: Providence gives them sense not to deposit their eggs in plums where the insects, when the plums fall to the ground, cannot crawl into the ground, and get warm winter quarters. I have seen frequent statements, where a part of a plum-tree extended over water, no plums were stung; whilst those over the ground were all destroyed. The Curculio is a winged insect; yet we see frequent cases where persons say they saved a crop by hanging a scythe on the tree, tying some soft wax round the body of the tree, to prevent the Curculio from crawling up the trees, and others, by shaking the tree twice per day, and killing the insects as they fall from the tree. If the insects had two particular hours to perform the work, I should have full faith in it; but, till convinced of this, I should as soon believe in spiritual rappings.

PEABODY'S NEW SEEDLING STRAWBERRY.—A colored portrait of Mr. Peabody's Strawberry has been sent us, and may be seen at the publication office. Certainly this is the largest yet, and all accounts agree as to its size and beauty, &c., rivalling in flavor Burr's New Pine. It is a cross of the Ross Phoenix with a wild strawberry of Alabama, hermaphrodite in character, a hardy, vigorous grower; a single plant sometimes cannot be covered by a half-bushel measure.

Mr. Peabody proposes to get one thousand subscriptions, at five dollars per dozen plants. As soon as this number is made up, he will notify each subscriber (having first sent him a colored plate), when the money may be mailed, and the plants, in moss and oiled silk, will be sent safely by post; packages of a dozen will go through the mail as safely as a letter. Address Charles A. Peabody, Columbus, Georgia.

FRUIT IN JELLY.—Put in a basin half a pint of calf's foot jelly, and when it has become stiff, lay in a bunch of grapes, with the stalks upwards, or fruit of any kind; over this put a few vine leaves, and fill up the bowl with warm jelly; let it stand till next day, and then set the bowl in water up to the brim for a moment, then turn out carefully. It is a very elegant looking dish.

THE VINE DISEASE is now said to be rapidly disappearing in Tuscany, and even in Portugal the worst is thought to be over; but so terrible have been its ravages, that for two years past the cultivation of the vineyards has been abandoned, the laborer has had no employment, the proprietor no produce, and the vines are nearly ruined. Among other contrivances which have been resorted to in order to save something from the vineyards, it is understood that the vine growers have been pressing such grapes as they had, and then adding enormous quantities of poor brandy to the juice, in order to prevent the putrid fermentation to which it is now so liable. This brandy spirit, or cherupiga, containing probably 50 per cent. of spirit, is the basis of much of the port wine that is received in England and America, and is known to be extremely unwholesome.

PORTABLE STEAM-ENGINES.—Certificates have been shown us that prove the value of the portable steam-engines. One farmer asserts that he has threshed one hundred bushels of oats per hour, and can readily thresh and clean over two hundred bushels of wheat per day. Another says five hundred bushels, and that he has threshed, and cleaned, and put into bags, at the rate of one bushel per minute. For farm work, this engine is most valuable, and no less so for irrigation, which it can be employed to do when there is no other work on hand.

With the mowers and reapers, the steam-engine, the lawn-mower, gas-works, and so forth, we now want a race of farmers, educated at agricultural colleges, to direct this machinery to the best advantage.

THE NEW YORK HORTICULTURAL SOCIETY has resolved to extend to the Pomological Society the usual hospitalities on the occasion of its next meeting in that city.

QUIANT AND TRUE.—Good, honest John Evelyn published, in 1686, his *Kalendar, or Gardener's Almanac*, with the following introduction: "As Paradise (though of God's own planting) was Paradise no longer than the man was put into it, to dress it and to keep it; so, nor will our own gardens remain long in their perfection, unless they are also continually cultivated. But when we have so much celebrated the life and felicity of a gardener as to think it preferable to all other diversions whatsoever, it is not because of the leisure which he enjoys above other men, ease and opportunity which minister to vain and inglorious delights, such as fools derive from sensual objects; we dare boldly pronounce it, there is not amongst men a more laborious life than is that of a good gardener's; but, because a labor full of tranquillity and satisfaction, natural and instructive, and such as (if any) contributes to piety and contemplation, experience, health, and longevity. In some, a condition it is, furnished with the most innocent, laudable, and purest of earthly felicities, and such as does certainly make the nearest approaches to that blessed state where only they enjoy all things without pains; so as those who were led only by the light of nature, because they could phansie none more glorious, thought it worthy of entertaining the souls of heroes and most illustrious of mortals. * * A gardener's work is never at an end; it begins with the year, and continues to the next; he prepares the ground, and then he sows it; after that he plants, and then he gathers the fruits; but, in all the intermediate space, he is careful to dress it. Intolerable confusion will succeed the smallest neglect, after once a ground is in order."

THE INDEX, &c., has fallen like a bombshell into our camp, and deranged the regular form of the present number, obliging us to omit much matter prepared. Happily, indexes, those useful articles for the future, do not come as often as house-cleaning time; if they did, garrulous editors would be so frequently in dilemmas, that they would give it up.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The following comprises the premiums awarded by the Society at the Twenty-Eighth Autumnal Exhibition, held at Penn Square on the 16th, 17th, and 18th of September, 1856:—

Collection of Plants.—*Collection of twenty*—pots not exceeding sixteen inches in diameter, at least one-half to be in bloom, open for private collections only, \$20, John Pollock, gr. to J. Dundas; second, \$15, Mark Hill, gr. to M. W. Baldwin; third, \$10, T. Robertson, gr. to B. A. Fahnestock; fourth best, \$8, J. J. Habermehl, gr. to J. Lambert. *Collection of twenty,*

same restrictions as above, open for all, \$20, Chas. Sutherland, gr. to John Anspach; second, \$15, Isaac Collins, gr. to Gen. R. Patterson; third, \$10, John Pollock; fourth, \$5, Thos. Robertson, gr. to B. A. Fahnestock. *Collection of twelve*, same restrictions, open for all, \$10, Isaac Collins, gr. to Gen. Patterson; second, \$8, J. J. Habermehl; third, \$6, John Pollock. *Collection of Specimen Plants*, in tubs or pots, each collection to contain four plants, \$8, J. Pollock. *Collection of Conifers*, grown in tubs, six plants, \$5, Robert Buist; second, \$3, David Ferguson. *Collection of Evergreens*, not elsewhere mentioned in this schedule, \$3, John Sherwood; second, Robert Buist. *Collection of Achimenes*, \$4, Wm. Grassie, gr. to John Tucker. *Collection of Orchids*, \$5, John Pollock; second, \$3, Robert Buist. *Collection of Ferns*, \$2, John Pollock; second, \$1, Thos. Robertson.

Special Premiums—to George Nicoll, gr. to Chas. Macalister, for a fine display of Coxcomb, \$3; James Thomas, gr. to J. D. Whetham, for Monthly Carnations, \$3; Robert Buist, for a collection of variegated Plants, \$3.

The Committee on Designs, Baskets, and Bouquets, reported the following awards:—

Designs, Baskets, and Bouquets.—*Designs*, formed of cut Flowers, \$20, Henry A. Dreer; second, \$15, Robert Dunlap, gr. to C. Fallon; third, \$5, J. J. Habermehl; do., not exceeding five feet in height, \$5, do.; do., of Grasses, \$3, Peter Raabe (120 species); second, \$2, do.; do., composed of the largest and finest varieties of Fruits, \$10, J. W. Parkinson; do., formed of Fruits and Flowers combined, \$10, Miss Percival; second best, \$5, to John Kinnier, gr. to Thos. Dunlap. *Baskets*, oval or round, averaging twenty inches in diameter, formed of cut Flowers, \$5, Henry A. Dreer; second, \$3, J. J. Habermehl; do., oval or round, averaging sixteen inches in diameter, \$3, J. J. Habermehl. *Bouquets*, for the hand, not exceeding eight inches in diameter, \$3, J. J. Habermehl; second, \$2, Henry A. Dreer. *Dahlias*, cut Flowers, twenty-four varieties, \$5, Gerhard Schmitz; second, \$3, Robert Buist; do. do., twelve varieties, by an amateur, \$3, Wm. Carvill, gr. to Henry Grambo; do. do., American Seedling, parti-colored, \$2, Gerhard Schmitz; do. do. do., self-colored, \$2, do. *Roses*, cut Flowers, twenty varieties, \$5, Henry A. Dreer; second, \$3, J. L. Darlington & Co., West Chester, Pa.

Special Premium of \$1, for Weed Bouquet, to Miss Percival.

The Committee cannot refrain from calling attention to the new and beautiful designs composed of fruits and flowers, and recommend an increase in the amount of premium. The Grasses are also of great merit and beauty. The Committee would report favorably of the seedling, ever-blooming Roses, the Beauty of Green Mount and Woodland Margaret, originated by James Pentland, of Baltimore, from the cut specimens submitted.

The Committee on Grapes have awarded the following:—

Grapes (foreign), grown in pots, ten specimens, for the best, \$10, Richard Mathews, gr. to Jos. S. Lovering. *Grapes* (foreign), collection, cut bunches, for the best, \$10, Geo. Lazenby, gr. to David S. Brown; second, \$5, M. Hagerty, gr. to Jos. Harrison. *Grapes* (Hamburg), three bunches, \$5, Geo. Lazenby; for the second best, \$3, Matthew Hagerty, gr. to Jos. Harrison. *Grapes* (Chasselas), three bunches, \$3, Geo. Lazenby; second, \$2, H. Cowperthwait. *Grapes* (White Muscat), three bunches, \$3, Geo. Lazenby; second, \$2, Chas. Sutherland, gr. to John Anspach. *Grapes* (Frontignac), three bunches, \$3, Geo. Lazenby; second, \$2, S. H. Simpson. *Grapes*, another variety, three bunches (White Nice), \$3, Wm. Grassie, gr. to John Tucker; for the second best (Frankenthal), \$2, H. Cowperthwait. *Grapes* (native), collection, cut bunches, \$5, Isaac B. Baxter; second, \$3, Peter Raabe. *Grapes* (Isabella), six bunches, \$2, Richard Mathews; second, \$1, A. L. Felton. *Grapes* (Catawba), six bunches, \$2, T. S. Fletcher; second, \$1, Thomas Hulton. *Grapes* (Elsinborough), six bunches, \$2, Jos. Smith, Burlington. *Grapes*, another variety, six bunches, for the best, \$2, Thos. Meehan. *Pine-Apples*, grown in pots, five specimens, \$10, Wm. Grassie; second, \$5, Wm. Grassie.

The Committee report that their attention has been called to two or three native varieties not heretofore exhibited—among which is that named the Concord Grape, grown under glass by Thomas Fletcher; but a very choice white grape, called the Rebecca, resembling somewhat the flavor of the Chasselas, said to be a seedling from the Isabella, and grown in Hudson, N. Y., is well entitled, we think, to pre-eminence over all others, and be truly considered a valuable acquisition to our native varieties.

Your Committee notice with pleasure the increasing interest manifested in the grape culture, from which we are encouraged to hope that many valuable results may be obtained thereby, both in size and quality.

Peaches, one bushel, \$5, H. S. Penn. *Peaches*, one peck, \$2, S. Titus (seedling, called the "Titus"); second, \$1, Isaac B. Baxter. *Peaches*, collection, six specimens each, \$3, Isaac B. Baxter. *Nectarines*, one dozen (Red Roman), for the best, \$2, Matthew Hagerty, gr. to Jos. Harrison. *Plums*, two dozen (Golden Drop), \$2, S. W. Noble, Montgomery County. *Plums* (White Egg), second, \$1, Robert Parham.

To Michael Magee, a premium of \$3 for the seedling Magee Peach, exhibited the second year; a fine free, with greenish-white flesh and red cheek.

The Committee on Pears and Melons respectfully report the following awards:—

Pears (native), collection, three specimens each, \$10, Hovey & Co., Boston, Mass.; second, \$5, Dr. J. K. Bshleman. *Pears* (Seckel), one peck, \$3, Thos. Hulton, gr. to E. B. Grubb; second, \$2, George W. Karl. *Pears*, another variety, six specimens, \$2, the "Petre," to R. B. Ott. *Pears* (foreign), collection, three specimens each, \$10, Hovey & Co., Boston, Mass.; second, \$5, Lloyd N. Rogers, Baltimore. *Pears*, any variety, one peck, \$3, the "Duchesse d'Angouleme," to T. S. Fletcher; second, \$2, the "Bartlett," to John Perkins. *Pears*, any variety, half peck, \$2, "Louise Bonne de Jersey," John Perkins; second, \$1, "White Doyenné," Thomas Brown. *Melons*, three specimens, \$2, the "Netted Melon," to W. Armstrong; second, \$1, "Stillman," M. Hagerty, gr. to J. Harrison. *Watermelons* (Mountain Sweet), three specimens, \$3, James T. Zane, N. J.; second, \$2, Mr. Zane, N. J. *Watermelons* (Marshall), \$2, Mr. Zane, N. J.; second best, \$1, Wm. Armstrong, gr. to Alexander Brown.

Several new Watermelons were exhibited for the first time. The *Souter* and *Pomaria*, originated in South Carolina, are varieties of the highest merit. Their size is large, rind remarkably thin, flesh red to the centre, flavor sugary and delicious. The *Imperial* is too small for market purposes, but, in all other respects, equal to the two preceding. *Odell's Large White* is very large, round in form, the rind not so thin, and the flesh a paler red; quality very fine. This variety is said to keep longer after being pulled from the vine than any other. In another year, we hope to have exhibited the *Bradford*, *Sumpter* or *Dark Speckled*, and some other new kinds, equal, in all respects, to the *Souter*, *Imperial*, and *Pomaria*, and superior to the *Mountain Sweet*.

The display of Pears was very fine, and many of the specimens were of great size and beauty, indicating judicious and skilful attention. The Committee awarded the following *Special Premiums*:—

Pears, for a collection, \$2 each, John Chambers and Mrs. C. Mackau. *Pears*, for a collection, \$1 each, J. W. Wilson, Isaac B. Baxter, and Robert Buist. *Pears*, for a fine dish of Seckel, each \$1, R. B. Ott, H. L. Tripler, M. Hagerty, and Henry Hay. *Pears*, for a fine dish of Regnier, \$1, Geo. Liggett; for a dish of White Doyenné, \$1, Samuel Cooper; and, for a dish of Duchesse d'Angouleme, \$1, John Chambers. *Watermelons*, \$1 each for the *Souter*, for the *Pomaria*, for the *Imperial*, and for the *Odell's Large White*, all to Mark Hill, gr. to M. W. Baldwin.

The Committee on Apples report the following award:—

Apples, collection, six specimens each, eighty varieties, \$5, John Perkins; second, twenty-three varieties, \$3, S. W. Noble. *Apples*, any variety, one bushel (Summer Pearman), \$2, Jacob Haines; second (Maiden's Blush), \$1, John Perkins. *Apples*, any variety, one peck (Maiden's Blush), \$2, J. L. Darlington & Co. *Figs*, twelve specimens, \$2, Mrs. Tessier. *Quinces*, half peck, \$2, Lloyd Chamberlain; second, \$1, Chas. Heritage.

The Committee on Vegetables respectfully report that they have awarded the premiums as follows:—

Potatoes, sweet, one bushel, for the best, \$2, William Armstrong; second best, \$1, to No. 250. *Beets*, long, one dozen, \$2, John Riley; do., round, \$2, James Jones, Girard College. *Carrots*, one dozen, \$2, John Riley. *Salsify*, one dozen, \$2, James Jones. *Onions*, yellow, three dozen, \$2, John Riley; do., white, three dozen, \$2, William Barry, gr. to Alfred Cope. *Special Premium* of \$2, for a basket of very superior white potatoes, to Joseph Zane. *Cabbage*, six heads, drumhead, \$2, Matthew Hagerty; second best, \$1, Thomas Riley, gr. to G. W. Carpenter. *Cabbage*, six heads, red Dutch, \$2, James Jones. *Lettuce*, six heads, \$2, A. L. Felten. *Celery*, six stalks, blanched, \$2, James Jones; second, \$1, William Armstrong. *Egg Plant*, six fruit, \$2, A. L. Felten; second, \$1, Samuel Greasley, gr. to W. T. Crook. *Tomatoes*, one peck, \$2, H. A. Dreer; second, \$1, S. H. Simpson. *Sweet Maize*, or *Indian Corn*, for table use, three dozen, \$2, M. Hagerty; second, \$1, A. L. Felten. *Pumpkins*, two specimens, \$1, M. Woodburn, gr. to Joseph Swift.

Vegetables, display, by a market gardener, or a gardener to a public institution, \$15, to A. L. Felten; display, by another do. do., second, \$10, to James Jones; display, by another do. do., third, \$5, John Riley; display, by an amateur, for the best, \$10, to Wm. Barry, gr. to Alfred Cope; display, by another amateur, second, \$5, to Wm. Armstrong; display by another amateur, third, \$4, to Mark Hill.

Special Premiums for very good and creditable displays—\$3 to M. Woodburn; \$3 to Robert Dunlap; \$3 to Patrick McStay, gr. to Geo. Blight; \$2 to Thomas Hulton; \$2 to John Kimier, gr. to Thos. Dunlap.

Calendar of Operations.

DECEMBER.

BY WILLIAM SAUNDERS.

CAULIFLOWERS.—This desirable vegetable does not attain to great perfection while the weather is dry and hot; cool, moist climates being most favorable to its growth. Very good crops may be obtained by sowing seed in May, and planting out the young plants in July or August. If the autumn is favorable, good heads will be formed before frost, and even those that show no indication of heading, may be lifted and protected in a cool cellar, where they will mature. To grow them well, the soil must be deep and rich. Crops for early spring use are raised in frames; these are planted during the present month. The bed is prepared by filling in a depth of two feet of good soil, and, if the bottom is covered with rough stones for drainage, they will be easier kept during winter. The plants are placed about eighteen inches apart, and the vacant spaces may be set with lettuce. The future management consists in preserving from severe frosts by sufficient covering; straw mats are most convenient—a covering of loose straw or hay most efficient. Air must be freely admitted in the absence of frost, and the soil should be kept rather dry during winter. It is not desirable to encourage growth before the end of February; afterwards, the quicker they are grown the better. Frequent stirring of the surface soil, and occasional applications of manure water, will promote growth; abundance of air is required at all favorable times, in order to keep the plants strong and dwarf. Clayey or strong, loamy soils, will be benefited by being thrown up in ridges, to be acted upon by the weather; the more exposed the surface, the more friable will the soil be left for spring operations.

GRAPERY.—Structures for the cultivation of the foreign grape are not so numerous as they ought to be. The cost of erection and preparation of borders is deemed so great as to deter many from entering into their culture. The expense of preparation need not be so very great. Good fruit may be grown in very simple houses. A roof of glass is not so costly, and by dispensing with heavy rafters and sliding sashes, and having the roof a fixture, very efficient houses can certainly be put up for three dollars per foot in length. The borders may be made up with good garden soil, well enriched, and thorough drainage is indispensable. Deep, damp borders, excessively manured, never prove satisfactory, and no amount of architectural display will compensate for want of practical skill in cultivation.

GREENHOUSE.—Artificial heat will now be required, and as the systems of heating are various, many are doubtful as to the most economical. The old-fashioned hot-air flue and furnace is so seldom mentioned, that it is very generally considered to be superseded by other methods. For small houses, it is, however, the most economical. The cost and expense of fitting up a hot-water apparatus is so great as to deter its introduction into small establishments. It is well known among cultivators, that as good plants and flowers have been, and still are, produced in houses warmed by flues, as in those that are heated after the most approved methods by hot water. Success in plant culture does not depend upon the method of producing artificial heat, although much depends upon its proper application. One of the largest and most unique conservatories in this country, was heated for several seasons by a branch from the furnace used in heating the dwelling to which it was attached, and small structures of this description have frequently no other means of being heated than by simply opening the communicating doors into the parlor. Thus we see that various simple expedients have been perfectly successful, and although water in pipes is undoubtedly economical on a large scale, or where several contiguous houses are warmed by one furnace; still, for small greenhouses, a flue is generally preferable. Flues should always be constructed with evaporating pans on the covers. These being filled with water when the fire is strong, counteract, to some extent, the aridity which at all times results from artificial heat.

Great care should now be exercised in watering. Plants of a tender nature, and those in a state of rest, should be kept as dry as consistent with health to render them proof against change of temperature.

1856.



INDEX

TO THE

HORTICULTURIST

FOR

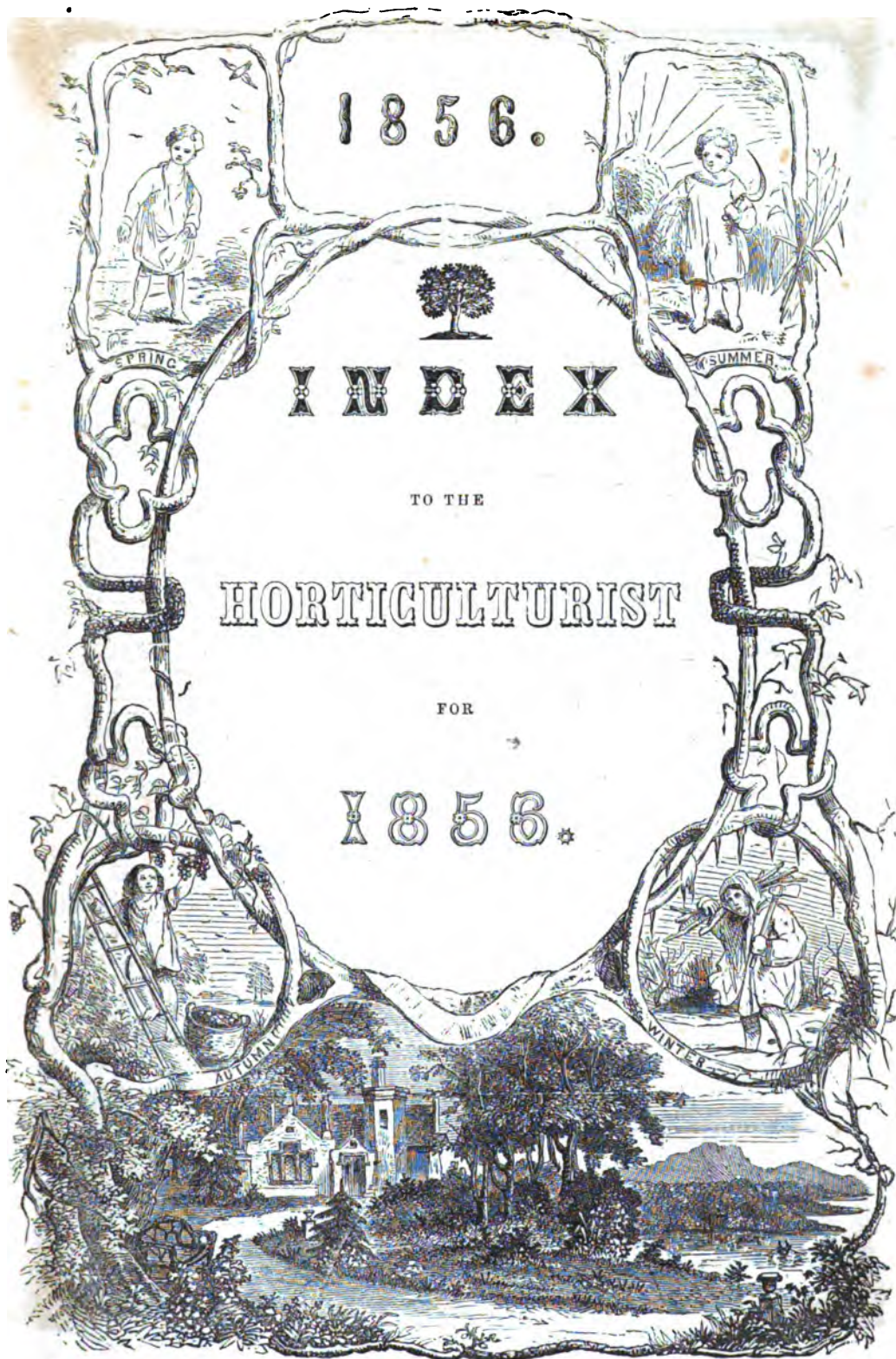
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SPRING

SUMMER

AUTUMN

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